



**GOVERNMENT OF MAHARASHTRA
WATER RESOURCES DEPARTMENT**



**Annual Consolidated Health Status Report of Identified Large
Dams (Class-I,II) in
North Maharashtra Region
for Year 2019-20**

Superintending Engineer,
Dam Safety Organization,
Dindori Road, Nashik- 4|

PREVENTION IS BETTER THAN CURE

“Regular Inspections along with safe maintenance and operation of dams and spillways thereof, assumes vital importance to avoid probable danger to life and property on the downstream.”



Cover Page Photos

First

Sulwade Barrage in Dhule district,

Second

Suki Dam in Jalgaon district

Superintending Engineer Dam Safety Organisation Dindori Road, Nashik-422004. Phone (Off.): 0253 – 2530030. Fax: 0253 – 2530030. E-mail: se.damsafety@gmail.com Website: www.mahadso.org	 महाराष्ट्र शासन जलसंपदा विभाग GOVERNMENT OF MAHARASHTRA WATER RESOURCES DEPARTMENT	अधीक्षक अभियंता, धरण सुरक्षितता संघटना, दिंडोरी मार्ग, नाशिक - ४२२ ००४. दूरध्वनी (ऑ.): ०२५३ - २५३००३० फॅक्स : ०२५३ - २५३००३०. ई-मेल : se.damsafety@gmail.com वेबसाईट : www.mahadso.org
जा.क्र./धसुविक्र.३/उत्तर महाराष्ट्र प्रदेश/धरण स्थिती अहवाल २०१९-२०/१९८/२०२० दिनांक : २९/०५/२०२०		

प्रति,

- 1) मा. मुख्य अभियंता, उत्तर महाराष्ट्र प्रदेश, जलसंपदा विभाग, सिंचन भवन, त्र्यंबक रोड, नाशिक 422002.
- 2) मा. मुख्य अभियंता, तापी पाटबंधारे विकास महामंडळ, आकाशवाणी केंद्र, महाबळ चौक, जळगांव 425001
- 3) मा. मुख्य अभियंता, विनिर्दिष्ट प्रकल्प, जलसंपदा विभाग, सिंचन भवन, बारणे रोड, पुणे 411011
- 4) मा. मुख्य अभियंता, जलसंपदा विभाग, सिंचन भवन, बारणे रोड, पुणे 411011
- 5) मा. मुख्य अभियंता, लघु सिंचन (जलसंधारण) बंगला नं. 12, पुणे, येरवडा 411006.
- 6) मा. मुख्य अभियंता, जलसंपदा विभाग, कोंकण प्रदेश, हाँगकाँग बँक इमारत, फ़ोर्ट, मुंबई 400023.
- 7) मा. मुख्य अभियंता, नियोजन व जलविज्ञान, जलविज्ञान भवन, दिंडोरी रोड, नाशिक 4220014

विषय:- उत्तर महाराष्ट्र प्रदेशातील पुर्ण झालेल्या मोठ्या धरणांचा पावसाळा पूर्व – पावसाळोत्तर २०१९ धरण स्थिती अहवाल-

संदर्भ :- महाराष्ट्र शासनाचे इंग्रजी पत्र क्र .पा.वि.१०७७ / २४०२/ १८६७/२ दिनांक १९.१.८२

संदर्भित शासन पत्रानुसार आपले अधिनस्त अधीक्षक अभियंता व कार्यकारी अभियंत्याकडून हया कार्यालयात प्राप्त झालेल्या उत्तर महाराष्ट्र प्रदेशातील पावसाळा पूर्व व उत्तर 2019 धरण निरीक्षण अहवालांची छाननी करुन तसेच धरण सुरक्षितता संघटनेकडुन करण्यात आलेल्या Test Inspection नुसार धरण स्थिती अहवाल तयार करण्यात आलेला आहे.


धरण स्थिती अहवालावरुन असे निदर्शनास येते की ; उत्तर महाराष्ट्र प्रदेशातील वर्ग-1 च्या सारंगखेडा बॅरेज मध्ये यांत्रिकी विभागाच्या निरीक्षण अहवालावरुन संवर्ग 1 च्या 2 उणिवा निर्देशनास आणुन दिलेल्या आहेत. व वर्ग-2 च्या धरणांमध्ये संवर्ग-1 च्या त्रुटी आढळून आल्या नाहीत. मात्र वर्ग -1 मधील 67 पैकी 08 धरणांमध्ये (11.94 %) आणि वर्ग -2 मधील 230 पैकी 47 धरणांमध्ये (20.43 %) संवर्ग-2 च्या त्रुटी आढळून आल्या आहेत.

धरण सुरक्षिततेसंबंधी क्षेत्रिय स्तरावर उणिवा निर्मुलनाबाबत उदासिनता दिसून येते. धरणस्थिती अहवाल 2018-19 मध्ये वर्ग-2 च्या त्रुटी आढळुन आलेल्या धरणांचे बाबतीत Action Taken Report 18 मे-2020 अखेर पर्यंत प्राप्त झालेत. प्राप्त अहवालांची तपासणी केल्यावर दिसुन येते की, HSR 2018-19 मध्ये 64 प्रकल्पांवर 258 वर्ग – 2 च्या त्रुटी आढळुन आल्या होत्या. त्यापैकी 10 प्रकल्पांवरील वर्ग-2 च्या काही त्रुटीबाबत कार्यवाही प्रस्तावित केल्याचे दिसुन येते. वरीलप्रमाणे वर्ग – 2 च्या त्रुटी निराकरणात दुर्लक्ष झाल्याने महाराष्ट्राला तिवरे धरण फुटीस सामोरे जावे लागले. भविष्यात याची पुनरावृत्ती होवु नये म्हणुन धरण सुरक्षिततेसाठी Dam Safety – Action Taken Reports बाबत प्रादेशिक कार्यालयात वेळोवेळी होणा-या होणा-या मासिक बैठकीत हा विषय अंतर्भुत करुन निदान त्रैमासिक आढावा घेतला जावा ही विनंती.

दोष व त्रुटीं बद्दल उचित कार्यवाही करुन सदर त्रुटींचे भौतिक निवारण करण्यात यावे आणि अनुपालन / पुर्तता अहवाल या कार्यालयास पाठविण्याबाबत आपल्या अधिनस्त असलेल्या संबंधित अधीक्षक अभियंता यांना आपले स्तरावरुन सुचना देणेची विनंती आहे.

धरण निरीक्षण अहवाल क्षेत्रिय अधिका-यांकडुन प्राप्त होण्यास सर्वसाधारणपणे दिरंगाई होते. त्यामुळे या संघटनेस धरण स्थिती अहवाल तयार करण्यात विलंब तागतो. तरी कृपया यापुढे धरणाचे निरीक्षण अहवाल विहीत नमुन्यात व विहीत कालावधीत या संघटनेस पाठविण्याविषयी क्षेत्रिय अधिका-यांना आपले स्तरावर सुचना निर्गमित व्हाव्यात ही विनंती. धरण स्थिती अहवाल सर्व संबंधित मंडळ व विभागीय कार्यालयांना ई- मेल व्दारे पाठविण्यात येत आहे.

सहपत्र : धरण स्थिती अहवालाची प्रत.


(य. का. भदाणे) 27/05/2020
अधीक्षक अभियंता,
धरण सुरक्षितता संघटना,
नाशिक -04

प्रत -

- 1) मा. सचिव (जसंव्य व लाक्षेवि), जलसंपदा विभाग, मंत्रालय, मुंबई-32 यांना अहवालासह माहितीस्तव सविनय सादर.
- 2) मा. कार्यकारी संचालक, गोदावरी मराठवाडा विकास महामंडळ, सिंचन भवन, जालना रोड, आकाशवाणी केंद्राच्या बाजूला, औरंगाबाद-431005
- 3) मा. महसंचालक, संकल्पन, प्रशिक्षण, जलविज्ञान, संशोधन व सुरक्षितता, मेरी, नासिक यांना अहवालासह माहितीस्तव सविनय सादर.
- 4) मा. कार्यकारी संचालक, महाराष्ट्र कृष्णा नदी खोरे महामंडळ, पुणे यांना माहितीस्तव सविनय सादर.
- 5) मा. कार्यकारी संचालक, तापी पाटबंधारे विकास महामंडळ, जळगांव यांना माहितीस्तव सविनय सादर.
- 6) मा. कार्यकारी संचालक, गोदावरी मराठवाडा विकास महामंडळ, औरंगाबाद यांना माहितीस्तव सविनय सादर.
- 7) मा. कार्यकारी संचालक, कोकण पाटबंधारे विकास महामंडळ, मुंबई यांना माहितीस्तव सविनय सादर.
- 8) मा. मुख्य अभियंता (संकल्पन, प्रशिक्षण, संशोधन व सुरक्षितता), महाराष्ट्र अभियांत्रिकी प्रशिक्षण प्रबोधिनी, नासिक यांना माहितीस्तव सविनय सादर.
- 9) मा. मुख्य अभियंता (यांत्रिकी), त्र्यंबक रोड, नाशिक 2 यांना माहितीस्तव सविनय सादर.
- 10) मा. आयुक्त, मालेगांव महानगरपालिका, मालेगांव यांना माहितीस्तव सविनय सादर.
- 11) मा. आयुक्त, नाशिक महानगरपालिका, नाशिक यांना माहितीस्तव सविनय सादर.
- 12) मा. आयुक्त, धुळे महानगरपालिका, धुळे यांना माहितीस्तव सविनय सादर.

सहपत्र: अहवालाची प्रत्येकी एक प्रत.

प्रत -

- 1) अधीक्षक अभियंता व प्रशासक लाभक्षेत्र विकास प्राधिकरण, सिंचन भवन, नाशिक.
- 2) अधीक्षक अभियंता, धुळे पाटबंधारे प्रकल्प मंडळ, सिंचन भवन, धुळे.
- 3) अधीक्षक अभियंता, जळगांव पाटबंधारे प्रकल्प मंडळ, जळगांव.
- 4) अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, जळगांव.
- 5) अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, अहमदनगर.
- 6) अधीक्षक अभियंता, कुकडी पाटबंधारे मंडळ, पुणे.
- 7) अधीक्षक अभियंता, पुणे पाटबंधारे मंडळ, पुणे.
- 8) अधीक्षक अभियंता, ठाणे पाटबंधारे मंडळ, ठाणे.
- 9) प्रादेशिक जलसंधारण अधिकारी, मृद व जलसंधारण विभाग, नाशिक

- 10) अधीक्षक अभियंता, यांत्रिकी मंडळ, पुणे
- 11) अधीक्षक अभियंता, (धरण) मध्यवर्ती संकल्पचित्र संघटना, नाशिक
- 12) अधीक्षक अभियंता, महाराष्ट्र जीवन प्राधिकरण मंडळ, होलाराम कॉलनी, साधू वासवानी रोड, नाशिक 2
- 13) अधीक्षक अभियंता, महाराष्ट्र औद्योगिक विकास महामंडळ, उद्योग भवन, आय टी आय सर्कल जवळ, नाशिक.
- 14) मुख्याधिकारी, नांदगांव नगर परिषद, नांदगांव.
- 15) मुख्याधिकारी, मनमाड, नगर परिषद, मनमाड.

**यांचे माहितीसाठी व पुढील योग्य त्या कार्यवाहीसाठी अहवालासह सस्नेह अग्रेषित
सहपत्र: अहवालाची प्रत्येकी एक प्रत.**

२/- कृपया वरील अहवालाची प्रत मिळाल्याची पोहच या कार्यालयास पाठवावी हि विनंती.

प्रत -

- 1) कार्यकारी अभियंता, नाशिक पाटबंधारे विभाग, सिंचन भवन शेजारी, त्र्यंबकरोड, नाशिक.
 - 2) कार्यकारी अभियंता, लघु पाटबंधारे विभाग, नाशिक.
 - 3) कार्यकारी अभियंता, नांदुरमध्यमेश्वर प्रकल्प विभाग, नाशिक.
 - 4) कार्यकारी अभियंता, पालखेड पाटबंधारे विभाग, नाशिक.
 - 5) कार्यकारी अभियंता, कडवा प्रकल्प विभाग, नाशिक.
 - 6) कार्यकारी अभियंता, मध्यम प्रकल्प विभाग, नाशिक.
 - 7) कार्यकारी अभियंता, अहमदनगर पाटबंधारे विभाग, अहमदनगर.
 - 8) कार्यकारी अभियंता, मुळा पाटबंधारे विभाग, अहमदनगर.
 - 9) कार्यकारी अभियंता, मालेगांव पाटबंधारे विभाग, गौती बंगला, मालेगांव कॅम्प, मालेगांव जि. नाशिक
 - 10) कार्यकारी अभियंता, धुळे पाटबंधारे विभाग, सिंचन भवन, साक्री रोड, धुळे.
 - 11) कार्यकारी अभियंता, लघु पाटबंधारे विभाग, सिंचन भवन, साक्री रोड, धुळे.
 - 12) कार्यकारी अभियंता, जळगांव पाटबंधारे विभाग, जळगांव.
 - 13) कार्यकारी अभियंता, लघु पाटबंधारे विभाग, जळगांव.
 - 14) कार्यकारी अभियंता, गिरणा पाटबंधारे विभाग, जळगांव.
 - 15) कार्यकारी अभियंता, जळगांव मध्यम प्रकल्प विभाग, जळगांव.
 - 16) कार्यकारी अभियंता, ठाणे लघु पाटबंधारे विभाग, कळवा, ठाणे.
 - 17) जिल्हा जलसंधारण अधिकारी, मृद व जलसंधारण विभाग, धुळे.
 - 18) कार्यकारी अभियंता, कुकडी प्रकल्प विभाग क्र. 2 नारायणगांव, जि. पुणे.
 - 19) कार्यकारी अभियंता, लघु पाटबंधारे विभाग क्र. 2, संगमनेर, जि. अहमदनगर.
 - 20) कार्यकारी अभियंता, उर्ध्व गोदावरी प्रकल्प विभाग, नाशिक.
 - 21) कार्यकारी अभियंता, कुकडी पाटबंधारे विभाग क्र. 2, श्रीगोंदा. जि. अहमदनगर
 - 22) कार्यकारी अभियंता, धुळे मध्यम प्रकल्प विभाग क्र. 2, नंदुरबार, जि. नंदुरबार
 - 23) कार्यकारी अभियंता, लघु पाटबंधारे विभाग क्र. 1, पुणे
 - 24) जिल्हा जलसंधारण अधिकारी, मृद व जलसंधारण विभाग, नाशिक
 - 25) कार्यकारी अभियंता, महाराष्ट्र औद्योगिक विकास महामंडळ, धुळे
 - 26) कार्यकारी अभियंता, महाराष्ट्र जीवन प्राधिकरण, होलाराम कॉलनी, साधू वासवानी रोड, नाशिक
- दोष व त्रुटी बद्दल त्वरीत कार्यवाही करुन अनुपालन / पुर्तता अहवाल या कार्यालयास त्वरित पाठवावा ही विनंती.**
- 2/- सदर अहवालाची प्रत ई मेले द्वारे पाठविण्यात येत आहे.**

प्रत - कार्यकारी अभियंता, धरण सुरक्षा विभाग क्र. १/२, कालवा सुरक्षा विभाग, दिंडोरी रोड, नाशिक ४
प्रत- संशोधन अधिकारी, उपकरणे संशोधन विभाग, धरण सुरक्षितता संघटना, नाशिक ४ यांना
माहितीसाठी अग्रेषित.

सहपत्र :- प्रत्येकी अहवालाची एक प्रत.

प्रत- ग्रंथालय, धरण सुरक्षा विभाग क्र. ३, नाशिक

सहपत्र :- अहवालाची दोन प्रती

प्रत - ग्रंथालय, मध्यवर्ती संकल्पचित्र संघटना, नाशिक

सहपत्र :- अहवालाची एक प्रत.

FOREWORD

1. "The Annual Health Status Report of Identified Large Dams i.e. Large Dams Class-I and Large Dams Class-II in North Maharashtra Region for the Year 2019-20 is prepared, based on the Inspection Reports (Pre and Post Monsoon 2019) received from field officers and the test inspections carried out by Dam Safety Organisation during year 2019-20. The period of the report is from April 2019 to March 2020

2. This Report comprises of following parts, as per guidelines received from Dam Safety Monitoring Unit of Central Water Commission, New Delhi vide letter No. 3/19/NCDS/HS/DSM/2001 dt. 28/8/2002.

Part-I :Action Taken Report on the Health Status Report 2018 on deficiencies classified under Category I & II.

Part-II :Annual Consolidated Health Status Report prepared for the year 2019-20 as described above for identified Large Dam Class-I and Dam Class-II on the basis of deficiencies classified under Category No. 1, 2 & 3.

Part-III :Annual Report of Performance of Dam Instruments installed on identified Large Dams.

Part-IV :Annual Report of Performance of Meteorological Instruments installed on Large Dams.

Part-V : Status of NCDS documents submitted to D.S.O.of Class-I Dams in the North Maharashtra region

Part-VI : Data filling status on DHARMA portal

Part-VII :Annual Report of Inspections done by Mechanical Organisation. Deficiency Category-I & II from Health Status Report made available by Mechanical.

3. This report provides condensed summary of dam deficiencies noticed during inspection carried out by field officer and dam safety organisation in the year **2019**. Field officer / owners of dams are requested to remove deficiencies to achieve dam safety aspects and send compliance report earliest.

4. Inspecting officers are requested to follow the suggestion given in Annexure – 1 while carrying out forthcoming Pre/Post Monsoon inspections of dams.In Annexure – 1 general information viz. Time schedule of inspection, classification of dams, inspection authorities, Preparation of AHSR for class-I & class-II dams, NRLD register updation, categorization and standardization of deficiencies, monitoring of deficiency removal program is given, which will be helpful to field officers.

5. As Health Status Report of Large Dams of Class I & II is prepared by Dam Safety Organization, it is suggested to carry out inspections of Class-III dams and small dams by competent field officers and to prepare the Health Status Report of these dams at the Regional Level & forward it to DSO. This has been also persused through letters, but the response from field officers is not encouraging. So special attention needs to be paid by field Chief Engineers in this regard.

6. This report covers Dam Health Status of **297** Class-I & II dams owned by WRD and also covers **09** private dams inspected by DSO twice in the year.

7. Post monsoon inspection reports of 8 dams (Class I - 2 dams & Class II - 6 dams) have not received to DSO,Nashik. It seems that, the field authorities have not carried out post monsoon inspections of these 08 dams. Regional Chief Engineer should take note of this and ensure that inspection of all dams are carried out within stipulated time.

8. Director General, MERI, Nashik has issued technical circular in 2006 (No.5325 of 2006 dated 15/12/2006) regarding guide lines for periodical inspections of spillway gates by the mechanical

Organisation information regarding no. of deficiencies observed during the inspections carried out by Mechanical Organisation are also incorporated in this Health Status Report.

Statement showing total numbers of dams having deficiencies

Sr. No	Dam owner	Year	Number of dams								
			Class I	Class II	Total	Class I dams having Deficiencies			Class II dams having Deficiencies		
						Cat-I	Cat-II	Cat-III	Cat-I	Cat-II	Cat-III
1	W.R.D	2018	<u>66</u> 27	<u>213</u> 00	<u>279</u> 27	<u>00</u> 00	<u>13</u> 27	<u>53</u> 00	00	47	166
		2019	<u>67</u> 33	<u>219</u> 00	<u>286</u> 33	<u>00</u> 01	<u>08</u> 32	<u>59</u> 00	00	44	175
2	Local Sector	2018	00	11	11	00	00	00	00	04	07
		2019	00	11	11	00	00	00	00	03	08
3	Private	2018	<u>01</u> 01	<u>08</u> 00	<u>09</u> 01	<u>00</u> 00	<u>00</u> 01	<u>01</u> 01	00	01	07
		2019	<u>01</u> 01	<u>08</u> 00	<u>09</u> 01	<u>00</u> 00	<u>00</u> 01	<u>01</u> 01	00	01	07
Grand Total		2018	<u>67</u> 28	<u>232</u> 00	<u>299</u> 28	<u>00</u> 00	<u>13</u> 28	<u>54</u> 28	00	52	180
		2019	<u>68</u> 34	<u>238</u> 00	<u>306</u> 34	<u>00</u> 01	<u>08</u> 33	<u>60</u> 34	00	48	190

**Civil
Mechanical**

Statement showing total number of deficiencies

Sr. No	Dam owner	Year	Number of Deficiencies								
			Category -I			Category -II			Category -III		
			Class - I	Class - II	Total	Class - I	Class - II	Total	Class - I	Class - II	Total
1	W.R.D	2018	00	00	00	52	196	248	444	610	1054
		2019	00	00	00	32	173	205	509	788	1297
2	Local Sector	2018	00	00	00	00	22	22	00	35	35
		2019	00	00	00	00	19	00	00	43	43
3	Private	2018	00	00	00	00	02	00	03	29	32
		2019	00	00	00	00	02	00	00	44	44

**Statement showing total number of deficiencies in gated dams
(As per data from Mechanical Organization)**

Sr · N o.	Dam Owner	Year	Number of Gated Dams			No. of dams inspect ed		Number of Deficiencies								
								Category-I			Category-II			Category-III		
			CI I	CI II	Ttl	CI I	CI II	CI I	CI II	Ttl	CI I	CI II	Ttl	CI I	CI II	Ttl
1	WRD	2018	33	00	33	29	00	00	00	00	905	00	905	1203	00	1203
		2019	34	00	34	33	00	02	00	02	1077	00	1077	2860	00	2860
3	Private	2018	01	00	01	01	00	00	00	00	05	00	05	05	00	00
		2019	01	00	01	01	00	00	00	00	10	00	10	30	00	30
Grand Total		2018	34	00	34	30	00	00	00	00	910	00	910	1208	00	1208
		2019	35	00	35	34	00	02	00	02	1087	00	1087	2890	00	2890


9. Observations / Findings in HSR-2019

- 9.2 It is seen that in North Maharashtra region, nil dam have Category-1 deficiency. It is noticed that 56 Class-I & II dams (18.30 %) have major deficiencies of Category- 2.
- 9.5 As per HSR-2018, in North Maharashtra region, in 65 dams (Class-I & Class-II) 272 nos. of deficiencies were observed. Field officers sent all Action Taken Reports but after scrutiny it is observed that compliance of deficiencies of none of the dam have been fully attended.
- 9.6 Regarding deficiencies in Mechanical components (Gates & Hoists etc.) category-1 deficiency found in Sarangkhedda Barrage .Regional Chief Engineer should take serious note on this & necessary remedial measures shall be taken immediately. Category-2 deficiencies have been noticed in the 34 dams and need attention of the project authorities.
- 9.7 The deficiencies shown in the present report are based on the pre/post monsoon inspections of the dams carried out by the field officers and reports of them received by this organisation. As such, the deficiencies and action taken there of is the sole responsibility of the field officers.
10. Being the dam owner , safety of the dam is the prime responsibility of the concerned field Executive Engineer. In order to ensure safety of dam/dams in his jurisdiction, he shall initiate the procedures for removal of deficiencies noticed in the pre-post monsoon inspection as well as pointed out in this HSR. Higher authorities shall accord timely sanction to works required for deficiency removal. Executive Director of the corporation are requested to make required funds available to the deficiency removal and monitor the progress periodically. This will help in keeping the dam safe.

I hope this report will serve desired expectations expressed by Dam Safety Monitoring Directorate of C.W.C.New Delhi. Any error, discrepancies omissions if any may please kindly be brought to the notice of this Organisation, so that it can be taken into consideration in the next report.

The efforts taken by the Superintending Engineer, Dam Safety Organisation, Nashik and his staff, for completion of this report are highly appreciated.

Place: Nashik-4
Date: 27 / 05 / 2020


(A.P.Kohirkar)
Director General
Design, Training, Hydrology,
Research and Safety
MERI, Nashik-4.

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**Annual Consolidated Health Status Report
Of Identified Large Dams In
North Maharashtra Region**

PART – 1

**Action Taken Report On
Annual Health Status Report of
Identified Large Dam For Year 2019-20**

PART – 1 : Action Taken Report on Annual Health status Report 2018-19 of Identified Large Dams – North Maharashtra Region

1.0 General

The Annual Health Status Report of North Maharashtra Region for the year 2018-19 was prepared, submitted and circulated to all field officers and same was submitted to Government of Maharashtra vide letter No. DSO/DSD-3/NMR/STATUSREPORT-/289/2019 dtd.24/05/2019 by Dam Safety Organisation. Field officers were requested to carry out remedial measures to remove major deficiencies pointed out in HSR and send action taken report to DSO.

In most of the cases response received from field officers regarding information of initiation of administrative procedures viz. estimate preparation, reference to design organization or Mechanical organization. In some cases, even though remedial measures are taken no reports are sent to DSO. In such situation, the ATR part of this HSR doesn't give correct picture. Hence, it is necessary that ATR be sent to DSO only after careful scrutiny at the level of Chief Engineer. The agency wise no of dams having major deficiencies as per HSR 2018-19 and status of compliance is given in Table 1.1

In year 2018-19 North Maharashtra region had 299 (Class-I 67 & Class-II 232) large dams. Out of these dams, 65 (Class-I 13 & Class-II 52) dams have major deficiencies. Action taken reports of 10 dams are received while action taken reports of 55 dams are not received from field officers. Agencywise list of these dams is given in Table 1.2

1.1 Action Taken Report on Defeciencies of Large Dams Class I

1.1.1 Action Taken Report on Deficiency Category-1 of Large Dams Class I

No such dams under this category is reported. (Table 1.3)

1.1.2 Action Taken Report on Deficiency Category-2 of Large Dams Class I

There are 13 dams reported under this category. Agencywise list of dams is given in Table 1.4

1.2 Action Taken Report on Defeciencies of Large Dams Class II

1.2.1 Action Taken Report on Deficiency Category-1 of Large Dams Class II

No such dams under this category is reported. (Table 1.5)

1.2.2 Action Taken Report on Deficiency Category-2 of Large Dams Class II

There are 51 dams reported under this category. Agencywise list of dams is given in Table 1.6

1.3 Action Taken Report on Defeciencies of Private Large Dams

In North Maharashtra Region, there are 01 private dams reported under this category

1.3.1 Action Taken Report on Deficiency Category-1 of Private dams Class I

No such dams under this category is reported. (Table 1.7)

1.3.2 Action Taken Report on Deficiency Category-2 of Private dams Class I

No such dams under this category is reported . (Table 1.8)

1.3.3 Action Taken Report on Deficiency Category-1 of Private dams Class II

No such dams under this category is reported. (Table 1.9)

1.3.4 Action Taken Report on Deficiency Category-2 of Private dams Class II

There are 01 dams reported under this category. Agency wise list of dams is given in Table 1.10

Part- 2 of this report gives the details of Annual Health Status Report of identified large dams based on Pre & Post monsoon – 2019-20 inspection reports.

Table - 1.1

Statement showing the position of compliance of Deficiencies Identified in Health Status Report (2017-2018)

Sr. No	Agency	Major deficiencies reported in Large Dams			Status of Deficiencies removal as per compliance report received in DSO											
					Physically fully completed			Physically in progress			Administrative action initiated			Compliance report not received in DSO		
		Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
[A] Chief Engineer North Maharashtra Region,Nashik																
(1)	CADA, Nashik	06	14	20	00	00	00	00	00	00	00	00	00	06	14	20
(2)	CADA, Ahamadnagar	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
[B] Chief Engineer, TIDC, Jalgaon																
(1)	CADA, Jalgaon	03	20	23	00	01	01	00	00	00	01	05	06	02	14	16
(2)	DIPC, Dhule	02	01	03	00	00	00	00	00	00	00	00	00	02	01	03
(3)	JIPC, Jalgaon	01	05	06	00	00	00	00	00	00	00	00	00	01	05	06
[C] Chief Engineer, Kokan Region , Mumbai																
(1)	TIC,Thane	00	03	03	00	00	00	00	02	02	00	01	01	00	00	00
[D] Chief Engineer, (SP),Pune																
(1)	Kukadi IC, Pune	01	04	05	00	00	00	00	00	00	00	00	00	01	04	05
[E] Chief Engineer, SSI (WC), Pune																
(1)	SSI(WC), Nashik	00	04	04	00	00	00	00	00	00	00	00	00	00	04	04
Govt.Total		13	51	64	00	01	01	00	02	02	01	06	07	12	42	54

Sr. No	Agency	Major deficiencies reported in Large Dams			Status of Deficiencies removal as per compliance report received in DSO											
					Physically fully completed			Physically in progress			Administrative action initiated			Compliance report not received in DSO		
		Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Private																
1	Nashik Municipal Corporation, Nashik	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2	Malegaon Municipal Corporation , Malegaon	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
3	Maharashtra Jivan Vikas Pradhikaran, Water Management Circle,A"bad	00	01	01	00	00	00	00	00	00	00	00	00	00	01	01
Private Total		00	01	01	00	00	00	00	00	00	00	00	00	00	01	01
Grand Total		13	52	65	00	01	01	00	02	02	01	06	07	12	43	55

Table - 1.2

List of dams whose deficiencies compliance report not received from field officers

Sr. No.	Class -I			Class -II		
	Circle Office	Compliance report awaited	Total no of dams	Division Office	Compliance report awaited	Total no of dams
Govt. dams [A] CE, North Maharashtra Region,Nashik				Govt. dams [A] CE, North Maharashtra Region,Nashik		
1	2	3		4	5	6
(1)	CADA, Nashik	1)Darna 2)Karanjawan 3)Bhandadara 4)Balthan 5)Karwa 6)Mula	06	Nashik Irrigation Division,Nashik	1)Borkhind 2) Mahiravani 3) Saradwadi 4) Thangaon 5)Wadiwarhe 6)Anjaneri 7)Alandi	07
				Palkhed Irrigation Division,Nashik	--	00
				Malegaon Irrigation Division,Malegaon	1)Jamlevani 2) Talwade bhamer 3) Ghodambe 4) Shinde 5) Bhadane	05
				Ahamadnar Irrigation Division, Ahamadnagar	1)Ambit 2)Ambikhalasa	02
(2)	CADA, Ahamadnagar	--	00	---	--	00
[B] CE ,TIDC, Jalgaon						
(1)	CADA,Jalgaon	1)Ranipur 2)Aner	02	Dhule Irrigation Division, Dhule	1) Khamkheda 2)Virkhel 3)Mahupada 4)Khaparkheda 5)Wakwad 6)Nandre 7)Kholghar 8)Dhanibara 9)Khandlay 10)Khokasa 11)Shelbari 12) Gadhad-deo	12
				Girna Irrigation Division, Jalgaon	1)Rajdehere	01
				Jalgaon Irrigation Division,Jalgaon	1)Agnavati	01

(2)	DIPC,Dhule	1)Punand 2)Nagan	02	Nandurbar Medium Project Division,Nandurbar	--	--
				Girna River Viley Project Div.Nashik	1)Dasane	01
				Minor Irrigation Division,Dhule	--	--
(3)	JIPC,Jalgaon	1) Haripura	01	Minor Irrigation Division,Jalgaon	1)Gangapuri 2) Sur 3) Matran-nalla 4) Jondhalkheda 5)Vadri	05
[C] Chief Engineer Kokan Region , Mumbai				[C] Chief Engineer Kokan Region , Mumbai		
(1)	TIC,Thane	--	00	Minor irrigation Division,Nashik	---	00
[D] Chief Engineer (SP),Pune				[D] Chief Engineer (SP),Pune		
(1)	KIC,Pune	1)Sina	01	Kukadi Irrigation Division,Shrigonda	1)Bhatodi 2) Telanghashi 3) Visapur 4) Ghodegaon	04
[E] Chief Engineer SSI (WC) Pune				[E] Chief Engineer SSI (WC) Pune		
(1)	SSI (WC) Nashik	--	00	SSI (WC),Division,Dhule	1)Thanepada	01
				SSI (WC),Division,Nashik	1)Alangun 2)Chinchave 3)Dudgaon	03
Total..			12	Total..		42
Private Dams				Private Dams		
	Private Dams	--	00	Maharashtra Jivan Vikas Pradhikaran,Water Management Circle,A"bad	1) Talegaon	01
Total..			00	Total..		01
Grand Total ..			12	Grand Total ..		43

Table 1.3
Action Taken Report on Deficiency Category-1 of Large Dams Class I

Sr.No.	Name of Dam	Date of Inspection	Main component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
<p style="text-align: center;">----- No Such Dams under this category is reported -----</p>						

Table 1.4
Action Taken Report on Deficiency Category-2 of Large Dams Class I

Sr. No	Dam Features	Date of Inspection	Main component of Dam	Observations / Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
[A] CHIEF ENGINEER, NMR, NASHIK (1) CADA, NASHIK (a) NASHIK IRRIGATION DIVISION. NASHIK						
1	Name:- DARNA Year of Completion: 1912 Location Longitude: 73° 45' 00" Latitude: 19° 48' 00" Height: 28 m Gross capacity: 226.87 Mm³ Spillway capacity:- 3336 m³/sec Sr. No. in National Register of Large Dams :- MH09MH0037	08/06/2018 13/03/2019	Shri. R.M.More S.E. & Adm. CADA Nashik	Masonry Dam Structural Performance of NOF & OF	i) There is sweating between gaps of two buttresses.(A11) ii) Dam is 100 year old & need strengthening.	Yet to be attended Yet to be attended .
2	Name:- KARWA Year of Completion: 1993 Location Longitude: 73° 48' 00" Latitude: 19° 40' 00" Height: 31.84 m Gross capacity: 59.59 Mm³ Spillway capacity: 2821 m³/sec Sr. No. in National Register of Large Dams :- MH09HH1444	04/06/2018 06/02/2019	Shri. R.M.More S.E. & Adm. CADA Nashik	Masonry Dam EDA Walls	There is damage to guide bunds @ the toe of end weir at d/s side.(A14) Erossion is noticed in tail channel beyond chainage 450 m.& is under observation.(A7) There is damage to guide bund @ chainage 450 m. & onwords in tail channel. (A14)	Yet to be attended Yet to be attended Yet to be attended

Sr. No	Dam Features	Date of Inspection	Main component of Dam	Observations / Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
3.	Name- KARANJWAN Year of Completion: 1974 Location Longitude: 73° 46' 00" Latitude: 20° 18' 00" Height: 39.3 m Gross capacity: 161.43 Mm³ Spillway capacity: 2724 m³/sec Sr. No. in National Register of Large Dams :- MH09HH0454	15/06/2018 13/03/2019	Shri. R.M.More S.E. & Adm. CADA Nashik	Masonry Dam Spillway Gates Outlet	There has been substancially high seepage in porous pipe No. 13,16,19 at the rate 1 lit/sec. (A10) There has been tendency of gradual reduction of drainage through pipe & progressive appearance of sweating on D/S face of dam. (A11) Two wire ropes are partly damaged. (A18) There is structural damage to intake well. R.C.C. columns and beams are damaged and steel open and rust. (A6) 3 cusecs leakages through gateno.1. (A4)	Yet to be attended Yet to be attended Yet to be attended Yet to be attended Yet to be attended

Sr. No	Dam Features	Date of Inspection	Main component of Dam	Observations / Significant Deficiencies Noticed	Remedial Measures Suggested	Implementation Status
1	2	3	4	5	6	7
(C) AHMEDNAGAR IRRIGATION DIVISION,AHMEDNAGAR						
4	Name-BHANDARDARA Year of Completion: 1926 Location Longitude: 73° 45' 30" Latitude: 19° 32' 43" Height: 82.35 m Gross capacity: 312.60Mm ³ Spillway capacity: 1500 m ³ /sec Sr. No. in National Register of Large Dams :- MH09HH0047	05/07/2018 -- 22/08/2018	Shri. R.M.More S.E. & Adm. CADA Nashik Shri. S.L Doiphode, S.E. D.S.O. Nashik	Masonry Dam NOF & OF	At some places swelling is observed on the d/s face. (ch.1090 ft.)(A13) There is excessive seepage sweating on d/s face of the dam @Ch.135,210,215,935,1090,1140, 1265 ft..(A11) Sweating observed on D/S face of dam throughout it's length.(A11) Conspicuous seepage & leaching through the body of the dam is observed.(A11 & A12)	Yet to be attended Yet to be attended Yet to be attended Yet to be attended
5	Name-BALTHAN Year of Completion: 2008 Location Longitude: 73° 49' 00" Latitude: 19° 28' 00" Height: 28.52 m Gross capacity: 5.72 Mm ³ Spillway capacity: 318.22 m ³ /sec Sr. No. in National Register of Large Dams :-MH09MH1936	05/07/2018 --	Shri. R.M.More S.E. & Adm. CADA Nashik	Waste Weir bar & T.C. Outlet	Pannels in stilling basin were dislodged & washed away.(A14) The energy dissipation working arrangement is not satisfactory for all discharges (A14)	Yet to be attended Yet to be attended

Sr. No	Dam Features	Date of Inspection	Main component of Dam	Observations / Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
(d) MULA IRRIGATION DIVISION,AHEMADNAGAR						
6	Name:- MULA Year of Completion: 1971 Location Longitude: 74° 34' 30" Latitude: 19° 21' 30" Height: 46.67 m Gross capacity: 736.32 Mm³ Spillway capacity:- 5946.53 m³/sec Sr. No. in National Register of Large Dams :- MH09HH0316	17/06/2018 15/01/2019	Shri. R.M.More S.E. & Adm. CADA Nashik	Earth dam W.W.Bar EDA Masonry dam	There is sign of water logging slushy condition on d/s of dam. (A2)* Additional guide wall which is constructed later is washed out during flood in 2006.(A16) Scouring is noticed at right and left side of tail channel at D/S end wall. (A7) At some places in tail channel surface concrete & supporting concrete of the end wall is washed out.(A14) Vertical porous drain pipes are chocked at some places (A9)	Yet to be attended Yet to be attended Yet to be attended Yet to be attended Yet to be attended

Sr. No	Dam Features	Date of Inspection	Main component of Dam	Observations / Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
[B] CHIEF ENGINEER, TAPI IRRIGATION DEVELOPMENT CORPORATION, JALGAON						
(1) CADA, JALGAON.						
(a) DHULE IRRIGATION DIVISION,DHULE						
7	Name :- RANIPUR Year of Completion: 1999 Location Longitude: NA Latitude: Na Height: 40 m Gross capacity: 43.90 Mm³ Spillway capacity: Ungated Sr. No. in National Register of Large Dams:- MH09HH1481	22/05/2018 05/12/2018 05/04/2018	Shri. S.J.Wanjari SE & Adm. CADA Jalgaon Shri. S.L Doiphode, S.E. D.S.O. Nashik	W.W&T.C Outlet EDA General Assessment	Scouring observed in tail channel in some patches. (A7) Conduit is fully chocked with heavy siltation(Aprox.10m depth).(A4) Wall of weir E. D.A. found in incomplete state. (A14) istence of Rock Toe can not be observed ,may be buried under eroded bank in the year 2006.Water over flown from guide wall in tail channel. Immediate repairs work need to be done.(A4,B5 & A7)	Estimate preparation is in progress for compliance of the remark.
8	Name :- ANER Year of Completion: 1979 Location Longitude: NA Latitude: NA Height: 47.00 m Gross capacity: 31.62 Mm3 Spillway capacity: 4318 m3/sec Sr. No. in National Register of Large Dams:- MH09HH0741	22/05/2018 06/12/2018	Shri. S.J.Wanjari SE & Adm. CADA Jalgaon	Earthen dam E.D.A.	Surface erosion observed on left side junction. (A16) Chute blocks are washed out. 36 Nos of blocks are washed out during monsoon 2006. (A17)	Estimate preparation is in progress for compliance of the remark.

Sr. No	Dam Features	Date of Inspection	Main component of Dam	Observations / Significant Deficiencies Noticed	Remedial Measures Suggested	Implementation Status
1	2	3	4	5	6	7
(2) DHULE IRRIGATION PROJECT CIRCLE, DHULE						
(a) GIRNA RIVER VALLEY PROJECT DIVISION, NASHIK						
10	Name :- PUNAND Year of Completion: 2011 Location Longitude: 73° 52' 30" Latitude: 20° 37' 30" Height: 42.225 m Gross capacity: 39.75 Mm³ Spillway capacity:- 1985.00 m³/sec Sr. No. in National Register of Large Dams :- MH09MH1820	05/06/2018 17/12/2018	Shri. M.S.Amale SE, DIPC, Dhule	Foundations NOF & OF Portion of Dam EDA River Sluice	Drainage gallery is full of water due to leakage. (A10) Leakage through R/S NOF section of Dam is observed (A15) Leakage through R/S NOF section of Dam is observed (A15) Rock erosion found near D/S of apron of spillway. (A16)	Yet to be attended Yet to be attended Yet to be attended Yet to be attended
(b) DHULE MEDIUM PROJECT DIVISION, DHULE						
11	Name :- NAGAN PROJECT Year of Completion: 2011 Location Longitude: 73° 52' 30" Latitude: 20° 37' 30" Height: 42.225 m Gross capacity: 39.75 Mm³ Spillway capacity:- 1985.00 m³/sec Sr. No. in National Register of Large Dams :- MH09MH1791	12/04/2018 26/12/2018	Shri. M.S.Amale SE, DIPC, Dhule & Shri D.D.Joshi EE, DMPD, Dhule	Foundations E. D. A.	Drainage gallery is not easily accessible & does not have adequate lighting facilities (A8) Foundation holes are not periodically cleaned. (A9) Tail pond can not be drained easily as the designed tail channel bed level is 4.0m above the stilling basin level. (A14)	Yet to be attended Yet to be attended Yet to be attended

Sr. No	Dam Features	Date of Inspection	Main component of Dam	Observations / Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
(3) JALGAON IRRIGATION PROJECT CIRCLE, JALGAON						
(a) MINOR IRRIGATION DIVISION. JALGAON.						
12	Name :- HARIPURA Year of Completion: 2010 Location Longitude: 76° 42' 00" Latitude: 21° 17' 00" Height: 41.27 m Gross capacity: 5.998 Mm³ Spillway capacity:- 833.00 m³/sec Sr. No. in National Register of Large Dams :- MH09MH1956	22/05/2018 18/11/2018	Shri.P.R.More & Shri A.S.More JIPC Jalgaon	W.W Bar & T.C. EDA Walls Outlet	The work of W.W. Bar is yet not started. (B7) EDA Work yet not started. (A14) Works are not yet started. (A16) Leakage below foundation of HR near operating valve is observed. (A4)	Yet to be attended Yet to be attended Yet to be attended Yet to be attended
[B] CHIEF ENGINEER, WATER.RESOURCES.PUNE						
(1) KUKADI IRRIGATION CIRCLE, PUNE						
(a) KUKADI IRRIGATION PROJECT DIVISION NO.2, AHMEDNAGAR						
13	Name :- SINA PROJECT Year of Completion: 2011 Location Longitude: 73° 52' 30" Latitude: 20° 37' 30" Height: 42.225 m Gross capacity: 39.75 Mm³ Spillway capacity:- 1985.00 m³/sec Sr. No. in National Register of Large Dams :- MH09HH1142	15/05/2018 29/10/2018	Shri Dhumal SE,Kukadi Irrigation Circle,Pune	Earth Dam W.W.bar & tail channel Outlet Outlet Gates	At ch.1500m there is a pond on d/s toe of dam at a distance of 50.0m from toe of earthen dam(A2) The scouring on D/s side of end weir @ 3.0 m distance is observed.(A7) Leakages through E.G. observed.LBC Emergency gate not operated properly. (A4) Actual operations of lifting & lowering of the gates and hoist mechanisms is not adequate and smooth. (A20)	Yet to be attended Yet to be attended Yet to be attended Yet to be attended

Table 1.5
Action Taken Report on Deficiency Category-1 of Large Dams Class II

Sr.No	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
<p style="text-align: center;">----- No Such Dams under this category is reported -----</p>						

Table 1.6

Action Taken Report on Deficiency Category-2 of Large Dams Class II

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
[A] CHIEF ENGINEER NMR , NASHIK (1) SUPERINTENDING ENGINEER & ADMINISTRATOR C.A.D.A. NASHIK (a) EXECUTIVE ENGINEER, NASHIK IRRIGATION DIVISION, NASHIK						
1	Name:- BORKHIND Year of Completion: 1995 Location:- Longitude: 73° 50' 00" Latitude: 19° 45' 09" Height: 19.59m Gross capacity:- 1.576Mm³ Spillway capacity: 7.62cumecs Sr.No.in National Register of Large Dams :- MH09MH1347	05/05/2018 NR	Earth Dam Outlet	Top Width, U/S & D/S slopes are not as per design. (B1) Abnormal leakage through Rock toe. (B3) Outlet gate is not in working condition since last 5 years. (B5) Outlet Well is not in working condition. (A6) Stem rod is not in working condition. (B5)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. The repair shall be carried out with the help of Mechanical Organization. Necessary repairs to be carried out. Necessary repairs to be carried out. The repair shall be carried out with the help of Mechanical Organization	Yet to be attended Yet to be attended Yet to be attended Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
2	Name: MAHIRAWANI Year of Completion: 1984 Location: Longitude: 73° 39'00 " Latitude: 19° 57' 00" Height: 25.53 m Gross capacity: 2.633 Mm³ Spillway capacity: 196 cumecs Sr.No.in National Register of Large Dams:- MH09MH0683	17/05/2018 24/12/2018	Outlet	There is about 2 cusecs leakage through outlet gate.(B5)	The leakage may be due to damages or misalignments of stem rods, damages to rubber seal, improper operation of hoist etc. The repair shall be carried out with the help of Mechanical Organization to minimize leakages.All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly.	Yet to be attended
				Leakage seen from side wall of conduit & conduit concrete. (A4)	Causes of leakage should be investigated & treated accordingly.	Yet to be attended
				Seepage observed near and around the junction of conduit. concrete and earthwork. (2 Cusecs) (A4)	Causes of seepage should be investigated & treated accordingly	Yet to be attended
			W.W.&T.C	WW bar is not in good condition. (B7)	Damaged portion of w.w. bar shall be repaired.	Yet to be attended
				scouring on D/S side of WW bar (50 m. below) is seen. (A7) Scouring is noticed in tail channel at 50 m.. (A7)	Scouring on d/s to be repaired by concrete filling suitably	Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
3	Name: THANGAON Year of Completion: 1992 Location: Longitude: 73 °56'00 " Latitude: 19° 42'00 " Height: 18.71 m Gross capacity: 1.424 Mm³ Spillway capacity: 345.0 Cumecs Sr.No.in National Register of Large Dams:- MH09MH1220	05/05/2018 NR	Earth Dam. Outlet	Dam section is not as per design. Undulations & concavity observed.(B1) Outlet well is not in working condition.(A6) Outlet gate is not in working condition since last 5 years.(B5) Stem rod is not in working condition.(B5)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly Necessary repairs should be carried out. The repair shall be carried out with the help of Mechanical Organization. The repair shall be carried out with the help of Mechanical Organization.	Yet to be attended Yet to be attended Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
4	Name: WADIWARHE Year of Completion: 1983 Location: Longitude: 73 °39'00 " Latitude: 19° 51'00 " Height: 19.40 m Gross capacity: 1.737 Mm³ Spillway capacity: 140.00 cumecs Sr.No.in National Register of Large Dams:- MH09MH0956	03/05/2018 27/12/2018	Earth Dam Outlet W.W. Bar & T.C.	Top width, U/S & D/S slopes are settled down & not as per design section (B1) . Oozing is noticed at D/s of slope. (A2) Leakage from pipe joint of outlet conduit is noticed. (A4) Scouring is noticed near R/S protection wall in tail channel at distance of 50 m. (A7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. Leakage should be monitored & if it is large then pipe joints should be repaired Scouring on d/s to be repaired by concrete filling suitably	Yet to be attended Yet to be attended Yet to be attended Yet to be attended
5	Name: SARADWADI Year of Completion: 1987 Location: Longitude: 73 °55'00 " Latitude: 19° 55'14 " Height: 12.52 m Gross capacity: 2.18Mm³ Spillway capacity: 544.8 cumecs Sr.No.in National Register of Large Dams :- MH09MH1125	05/05/2018 NR	Earth Dam Outlet	Top width, U/S & D/S slopes are not as per design section. Some concavity is observed. (B1) Outlet well is silted up.The well is not in working condition. (A6) Outlet gate is not in operation since last 4 years. (B5) Stem rod is not in working condition. (B5)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Necessary repairs should be carried out. The repair shall be carried out with the help of Mechanical Organization The repair shall be carried out with the help of Mechanical Organization	Yet to be attended Yet to be attended Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
6	Name: ANJNERI Year of Completion: 2006 Location: Longitude: 73 °35'40 " Latitude: 19° 56'00 " Height: 28.19 m Gross capacity: 3.24Mm³ Spillway capacity: 100.45 cumecs Sr.No.in National Register of Large Dams :- MH09HH1804	17/05/2018 NR	Earth Dam Outlet	Leakage from embankment between chainage 500 to 800 m.(A1) Standing pool on d/s of dam.(Not connected with dam).(A2) Leakage through outlet gate about 1.5 cusecs.(B12) Stem rod is bend.(B5)	All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. The d/s area at least up to above 200m. from toe, shall be free from stagnation of water. The area should be well drained so as to avoid any stagnant pools of water The repair shall be carried out with the help of Mechanical Organization The repair shall be carried out with the help of Mechanical Organization	Yet to be attended Yet to be attended Yet to be attended Yet to be attended
7	Name: ALANDI Year of Completion: 1983 Location: Longitude: 73 °42'00 " Latitude: 20° 7'00 " Height: 29.28 m Gross capacity: 29.53Mm³ Spillway capacity: 1019.0 cumecs Sr.No.in National Register of Large Dams :- MH09MH1003	08/06/2018 20/12/2018	WW & TC	Left side flank wall is collapsed in rainy season.About 3 cusecs leakage through flank wall and foundations observed.(A15) Concrete base of stilling basin is eroded at some places.(A6)	Necessary repairs should be carried out on top priorities to prevent the leakages. Necessary repairs should be carried out.	Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
(b) EXECUTIVE ENGINEER, MALEGAON IRRIGATION DIVISION, MALEGAON						
8	Name :- JAMLEVANI Year of Completion: 1999 Location : Longitude: 73° 49'47 " Latitude: 20° 26' 40 " Height: 27.63 m Gross capacity: 1.66 Mm³/sec Spillway capacity:- 340.37cumecs Sr.No.in National Register of Large Dams : MH09MH1507	21/06/2018 01/12/2018	Earth Dam. Outlet Waste weir bar & tail channel	Crest profile & top width is not as per design. (B1) Abnormal leakage through rock toe. (B3) Leakage from conduit concrete. (A4) Junction between spillway bar & embankment is not intact. Leakage observed. (B7) Scouring is noticed at D/S side in tail channel (A7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Exact causes of leakages should be investigated & treated accordingly. All leakages need to be attended in time Leakage should be monitored & if it is large then pipe joints should be repaired & all leakages needs to be attended in time. Exact causes of leakages should be investigated & treated accordingly. Exact causes of leakages should be investigated & treated accordingly. Scouring on d/s to be repaired by concrete filling suitably	Yet to be attended Yet to be attended Yet to be attended Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
9	Name :- TALWADE BHAMER Year of Completion: 1979 Location : Longitude: 74° 18' 00 " Latitude: 20° 48' 00 " Height: 15.45 m Gross capacity: 2.560 Mm³/sec Spillway capacity:- 265.33 cumecs Sr.No.in National Register of Large Dams :- MH09MH0776	04/06/2018 10/01/2019	Earth Dam Outlet	Top width is less than design. Undulations noticed. (B1 & B3) Outlet gate is not in working condition. (B7) Well & approach channel is completed silted. (A6)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Cracked portion should be excavated in the form of trench up to bottom of crack and trench filled by well compacted proper soil and sandy murum. The repair shall be carried out with the help of Mechanical Organization. Necessary repairs should be carried out.	Yet to be attended Yet to be attended Yet to be attended
10	Name: BHADANE Year of Completion: 1984 Location: Longitude: 73° 30' 00 Latitude: 20° 34' 00" Height: 16.20 m Gross capacity: 1.520 Mm³ Spillway capacity: 101.0cumecs Sr.No.in National Register of Large Dams: MH09MH0957	21/06/2018 01/12/2018 10/04/2018	EE Outlet W.W.& T.C.	Section is not as per design in respect of top width.D/S and U/S slope are not as per design. (B3) Leakage through gate and HR well. (B5 & A6) Leakage through well masonry. (A6) Flank wall leakages occurred when dam is @ FSL. (A15)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Causes of leakages should be investigated & treated accordingly. Exact causes of leakages should be investigated & treated accordingly. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly.	Yet to be attended Yet to be attended Yet to be attended Yet to be attended

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Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
(c)EXECUTIVE ENGINEER, A'NAGAR IRRIGATION DIVISION, AHMADNAGAR						
13	Name:- AMBIT Year of Completion:- 2003 Location Longitude: 73° 47' 30 " Latitude: 19° 36' 30" Height: 24.00m Gross capacity: 5.86Mm³ Spillway capacity: 952.0 cumecs Sr.No.in National Register of Large Dams:- MH09MH1943	11/04/2018 19/12/2018	W.W.&T.C.	22 pannel of size 7x 5 m are washed away with anchor bar & exposed rock are open in stilling basin. (A14) Flow condition of EDA have tendency to draw material. (A14)	The necessary repair shall be carried out in consultation with the S.E. (Dams) C.D.O.Nashik Necessary repairs should be carried out in consultation with S.E. (Dams) C.D.O.Nashik	Yet to be attended Yet to be attended
14	Name:- AMBIKHALSA Year of Completion:- 1974 Location Longitude: 75° 00' 00 " Latitude: 19° 24' 00" Height: 15.32m Gross capacity: 1.74Mm³ Spillway capacity: 9000.0 cumecs Sr.No.in National Register of Large Dams:- MH09MH0512	19/04/2018 08/12/2018	Outlet	Outlet gate is not in working condition. (B5) Outlet well is not in good condition. (A6) Complete gate assembly have to be repaired. (B5)	The repair shall be carried out with the help of Mechanical Organization. Necessary repairs should be carried out. The repair shall be carried out with the help of Mechanical Organization.	Yet to be attended Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
[B] CHIEF ENGINEER ,KONKAN REGION , MUMBAI (1) SUPERINTENDING ENGINEER & ADMINISTRATOR THANE IRRIGATION CIRLE , KALAWA ,THANE (a) EXECUTIVE ENGINEER, MINOR IRRIGATION DIVISION, NASHIK						
15	Name : JATEGAON Year of Completion: 1986 Location: Longitude: 73 ° 30' 00 " Latitude: 20° 00' 00 " Height: 19.54 m Gross capacity: 1.77 Mm³ Spillway capacity: 215.20 cumecs Sr.No.in National Register of Large Dams : -MH09MH1030	07/05/2018 22/11/2018	Outlet WW bar & Tail channel	UCR masonry work of well is damaged. (A6) Leakage from junction of flank wall and ww bar. (A4) Retrogression is noticed in tail channel. (A7)	Necessary repairs should be carried out All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Extent of retrogression should be ascertained and monitors every year by mapping.If the problem of retrogression is moving upstream and is serious for geological investigation the problem shall be referred to respective organization for undertaking investigations and studies for evolving suitable solution to the problem.	Estimate is sanctioned in prapan-suchi 2019-20.This work will complete in 2020 Estimate is sanctioned in prapan-suchi 2019-20.This work will complete in 2020 Estimate is in progress.

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
16	Name : BUBALI Year of Completion: 1984 Location: Longitude: 73 ° 39'00 " Latitude: 20° 21' 00 " Height: 20.00m Gross capacity: 1.634 Mm³ Spillway capacity: 322.96 cumecs Sr.No.in National Register of Large Dams :- MH09MH0976	26/05/2018 25/11/2018 09/04/2018	Earth Dam Outlet W.W.&T.C.	Section is not as per design.U/s & d/s slope is concave in some portion. (B1 & B3) Repairs to whole gate system is required. (B5) Retrogression is noticed in tail channel At D/S of tail channel near check wall deep holes occurred due to scouring.Due to heavy rainfall on 10/07/2016 to 12/07/2016 & 02/08/2016 to 03/08/2016 filling of boulders and mudrooms washed away. (A7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. The repair shall be carried out with the help of Mechanical Organization If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Extent of retrogression should be ascertained and monitors every year by mapping.If the problem of retrogression is moving upstream and is serious for geological investigation the problem shall be referred to respective organization for undertaking investigations and studies for evolving suitable solution to the problem.	D/S concave portion work is completed in 2015.U/S concave portion work is completed in 2019 Repair to whole gate system is done but silt is coming through inlet.Repairs to gate system is required. Deep hole rectified by constructing check wall &key wall near existing check wall.Work is completed in 2019.To prevent retrogression near WW ,d/s bucket & apron wall is proposed in sanctioned procurement list (prapan-suchi) for the year 2019-20.

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
[C] CHIEF ENGINEER ,TIDC ,JALGAON (1)SUPERINTENDING ENGINEER, DIPC, DHULE (a) EXECUTIVE ENGINEER , GIRNA RIVER VALLEY PROJECT DIVISION,NASHIK						
18	Name: DASANE Year of Completion: 1970 Location : Longitude: 74° 46' 00 " Latitude: 20° 42' 00" Height: 27.92 m Gross capacity: 2.57 Mm³ Spillway capacity: 630.00cumecs Sr.No.in National Register of Large Dams: MH09MH0216	11/05/2018 20/11/2018	Earth Dam WW&TC	Water seepage/leakage within 50 m d/s of dam in nalla portion at ch.320 to 400 m. (A2) Seepage through flank wall is noticed. (A15)	Causes of leakages should be investigated & treated accordingly.Necessary remedial measures to be carried out. Causes of leakages should be investigated & treated accordingly.Necessary remedial measures to be carried out.	Yet to be attended Yet to be attended

[illegible]

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
20	Name: Mahupada Year of Completion: 1989 Location : Longitude: 74° 25' 45" Latitude: 21° 00' 05" Height: 16.47m Gross capacity: 2.558 Mm³ Spillway capacity: 126.95 cumecs Sr.No.in National Register of Large Dams:- MH09MH1948	17/05/2018 24/11/2018 05/04/2018	Earth dam Outlet WW.&TC	D/S Slope are under section.. (B3) There is leakage from conduit. (A4) Outlet well is not in good condition. Some part of UCR masonry collapsed. (A6) Scouring on d/s side of bar. EDA is not in good condition. (A7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Causes of leakages should be investigated & treated accordingly. Necessary remedial measures to be carried out. Scouring on d/s to be repaired by concrete filling suitably.	Estimate preparation is in progress for compliance of the remark.

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
21	<p>Name:-KHAPERKHEDA Year of Completion: 1976 Location : Longitude: 74° 40' 12" Latitude: 20° 30' 00" Height: 18.30m Gross capacity:2.70 Mm³ Spillway capacity:424.0 cumecs Sr.No.in National Register of Large Dams: MH09MH0581</p>	<p>29/05/2018 23/11/2018</p>	<p>Earth Dam</p> <p style="text-align: center;">Outlet</p> <p style="text-align: center;">W.W. Bar</p>	<p>Section is not as per design Slope indicates concavity.(B1)</p> <p>Leakage or oozing is noticed at d/s slope.(A1)</p> <p>Boils and wet patches noticed at d/s of embanjment.Leakage through dyke.(A1)</p> <p>Leakage through conduit concrete & pipe joints (A4)</p> <p>Some portion of guide bund is washed out since 2006.(B7)</p> <p>Scouring is noticed at D/S of WW bar.(A7)</p>	<p>Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly.</p> <p>Causes of leakages should be investigated & treated accordingly</p> <p>Causes of leakages should be investigated & treated accordingly</p> <p>Leakage should be monitored & if it is large then pipe joints should be repaired & all leakages needs to be attended in time. Exact causes of leakages should be investigated & treated accordingly.</p> <p>Necessary repaiors should be carried out immediately</p> <p>Scouring on d/s to be repaired by concrete filling suitably</p>	<p>Estimate preparation is in progress for compliance of the remark.</p>
22	<p>Name:-WAKWAD Year of Completion: 1977 Location : Longitude: 74° 46' 00" Latitude: 21° 07' 00" Height: 28.64m Gross capacity:2.910 Mm³ Spillway capacity:418.0 cumecs Sr.No.in National Register of Large Dams:- MH09MH0633</p>	<p>11/05/2018 13/11/2018</p>	<p>Earth Dam</p> <p style="text-align: center;">Outlet</p> <p style="text-align: center;">W.W & T C</p>	<p>Top width,U/S & D/S slope are not as per design.(B1)</p> <p>Leakage through gate from slot about 10-15 LPS.(A4)</p> <p>Leakage through masonry of WW bar.(10 to 20 LPS) Left side wall between WW bar & embankment is collapsed.(B7)</p>	<p>Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly</p> <p>The leakage may be due to damages or misalignments of stem rods, damages to rubber seal, improper operation of hoist etc. The repair shall be carried out with the help of Mechanical Organization to minimize leakages</p> <p>Damaged portion of w. w. bar shall be repaired.Location & amount of leakages shall be monitored and if large then necessary treatment in the affected area & on its u/s may be carried out to minimize leakage.</p>	<p>Estimate preparation is in progress for compliance of the remark.</p>

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Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
24	Name: KHOLGHAR Year of Completion: 1986 Location: Longitude: 74° 49' 00 " Latitude: 20° 39' 00" Height: 26.0 m Gross capacity: 4.314 Mm³ Spillway capacity: 470.99 cumecs Sr.No.in National Register of Large Dams: MH09MH1121	05/06/2018 18/11/2018	Earth Dam Outlet WW.&TC	General condition of dam is not satisfactory. Settlement of d/s slope.Dam section and dam top width is not as per design. (B1) H.R. masonry of well is fully damaged.Outlet hoist not in proper line.Gate is in closed position. (A18) Piping is observed near junction of conduit and earthwork. (A4) Scouring at d/s and u/s of bar.Scouring observed in tail channel. (A7) EDA is totally collapsed.D/S guide wall washed away due to heavy rain. (A14)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Damaged portion shall be repaired or reconstruct. Neccesary repairs should be carried out. Scouring on d/s to be repaired by concrete filling suitably. Damaged portion of EDA shall be repaired Necessary repairs should be carried out immidetely.	Estimate preparation is in progress for compliance of the remark.
25	Name: DHANIBARA Year of Completion: 1985 Location: Longitude: 74° 48' 00 " Latitude: 21° 02' 00" Height: 19.65m Gross capacity: 1.660Mm³ Spillway capacity: 418.8 cumecs Sr.No.in National Register of Large Dams:- MH09MH1085	05/06/2018 18/11/2018	Earth Dam Outlet	Small leakage on d/s slope when dam is full. Dam top is settled. (A1 & B3) Top width is not as per design. (B1) Leakage observed through gate & head wall (A4)	Leakages appearing on d/s shall be treated immediately by providing inverted filters at exit points & the path of leakage from u/s shall be traced out & treated properly i.e. filling with impervious soil blanket or filling on u/s side Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. The leakage may be due to damages or misalignments of stem rods, damages to rubber seal, improper operation of hoist etc. The repair shall be carried out with the help of Mechanical Organization to minimize leakages All leakages need to be attended in time.	Estimate preparation is in progress for compliance of the remark.

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
			W.W&TC	Heavy leakage through pipe conduit (A4) Leakages in outlet well. (A6) Outlet & earth work is not properly protected hence carries leakage. (A4) H.R well required to reconstruct. (A6) WW bar is in damaged condition. (B7) EDA required to reconstruct. (A14)	Causes of leakages should be investigated & treated accordingly. Causes of leakages should be investigated & treated accordingly. Necessary action should be taken. Damaged portion of w.w.bar shall be repaired. Necessary repairs should be carried out.	
26	Name: KHANDLAY Year of Completion: 1974 Location: Longitude: 74° 25' 45 " Latitude: 21° 00' 05 " Height: 21.90 m Gross capacity: 1.593 Mm³ Spillway capacity: 413.00 cumecs Sr.No.in National Register of Large Dams: MH09MH0430	02/05/2018 07/11/2018	Earth Dam Outlet	Section is not as per design. (B1) Concavity on u/s & d/s slope.Top width is less than 3.0 m. (B1) Standing pool on d/s. (A2) Heavy crack from top to 3m. downward to well. Leakage from well. (A6) Leakage through gate. (B12) Two numbers of stem rod are bent. (B5)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly The d/s area at least up to above 200m. from toe, shall be free from stagnation of water The area should be well drained so as to avoid any stagnant pools of water Damaged portion of well shall be monitored & repaired properly. Causes of leakages should be investigated & treated accordingly. Necessary repairs should be carried out.	Estimate preparation is in progress for compliance of the remark.

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
28	Name: SHELBARI Year of Completion: 1982 Location: Longitude: 74° 08' 30 " Latitude: 20° 50' 00 " Height: 20.70 m Gross capacity: 1.589 Mm³ Spillway capacity: 403.0 cumecs Sr.No.in National Register of Large Dams: MH09MH0929	09/05/2018 09/11/2018	Earth Dam WW & TC	Leakage Or oozing on d/s slope of embankment. (A3) Leakage through foundation of masonry bar. (B7)	Leakages appearing on d/s shall immediately be treated by providing inverted filters at exit points & the path of leakage from u/s shall be traced out & treated properly i.e. filling with impervious soil blanket or filling on u/s side Location & amount of leakages shall be monitored and if large then necessary treatment in the affected area & on its u/s may be carried out to minimize leakage.	Estimate preparation is in progress for compliance of the remark.
29	Name: CHHAWADI Year of Completion: 1973 Location: Longitude: 74° 31' 00 " Latitude: 21° 06' 00 " Height: 17.20 m Gross capacity: 4.420 Mm³ Spillway capacity: 1243.00 cumecs Sr.No.in National Register of Large Dams: MH09MH0383	02/05/2018 06/11/2018	Earth Dam WW& TC	Embankment is not in good condition Top width is less than 3.0 m. i.e. 1.5 m. to 2.5 m. (B1,B3) . U/S & D/S slopes shows signs of slips bulging or concavity. (B3) Longitudinal cracks, rain cuts,crab holes in the embankment. (B4) Masonry bar is not in good condition. Bar is broken by 0.90m.Leakage through masonry & foundation. (B7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly Longitudinal cracks shall be excavated & filled with by soil & sandy material with proper proportion. Rain cuts shall be filled by heavy drainable casing material. Damaged portion of w.w.bar shall be repaired	The estimate is ready and the work is submitted for sanction towards TIDC.The work will start after getting Prapan suchi approval.

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
30	Name: HALDANI Year of Completion: 1989 Location: Longitude: 73° 58' 00 " Latitude: 21° 09' 00 " Height: 19.42 m Gross capacity: 3.420 Mm³ Spillway capacity: 410.00 cumecs Sr.No.in National Register of Large Dams: MH09MH1231	04/06/2018 21/11/2018	Earth Dam Outlet WW& TC	Embankment settlement in gorge by 0.6 m.Section is not as per design.Rain cuts noticed. (B1,B3 & B4) Head regulator is collapsed. (A6) Scouring in tail channel, 4 m. to 5 m drop observed. (A7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly Necessary repairs should be carried out. If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Extent of retrogression should be ascertained and monitors every year by mapping.If the problem of retrogression is moving upstream and serious for geological investigation the problem shall be referred to respective organization for undertaking investigations and studies for evolving suitable solution to the problem.	The estimate is ready and the work is submitted for sanction towards TIDC.The work will start after getting Prapan suchi approval.

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
31	Name: JALOD Year of Completion: 1998 Location: Longitude: 74° 45' 00 " Latitude: 21° 28' 00 " Height: 22.73 m Gross capacity: 2.60 Mm³ Spillway capacity: 742.00 cumecs Sr.No.in National Register of Large Dams: MH09MH1476	11/05/2018 11/11/2018	EE Outlet WW& TC	General condition of embankment is not good.Crest profile is not at proper elevation and not free from undulation. (B1) Top width and u/s and d/s slope are not as per design. (B3) Leakage through gate.(10c to 15 LPS.) (B5) Leakage through masonry of WW bar.(10 to 15 LPS) (B7) Left side wall between WW bar & embankment is collapsed. (B7)	Necessary repairs should be carried out. Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Leakages should be stopped by consulting Mechanical Organisation Necessary repairs should be carried out. Necessary repairs should be carried out.	The estimate is ready and the work is submitted for sanction towards TIDC.The work will start after getting Prapan suchi approval.
32	Name: GADHAD-DEO Year of Completion: 1998 Location: Longitude: 74° 50' 30 " Latitude: 21° 36' 30 " Height: 22.80 m Gross capacity: 1.73 Mm³ Spillway capacity: 230.80 cumecs Sr.No.in National Register of Large Dams: MH09MH1468	11/05/2018 11/11/2018	EE Outlet WW& TC	General condition of dam is not good.The crest profile is not at proper elevation. (B3) Leakage through gate.(10c to 15 LPS.) (B5) Stem rod is bent up. (B5) Leakage through masonry of WW bar.(10 to 15 LPS) (B7) Left side wall between WW bar & embankment is collapsed.	Necessary repairs should be carried out. Leakages should be stopped by consulting Mechanical Organisation Necessary repairs should be carried out. Necessary repairs should be carried out. Necessary repairs should be carried out.	Estimate preparation is in progress for compliance of the remark.

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
33	Name: RANGAVALI Year of Completion: 1998 Location: Longitude: 73° 52' 12 " Latitude: 21° 4' 00 " Height: 25.63 m Gross capacity: 1.5 Mm³ Spillway capacity: 1186.00 cumecs Sr.No.in National Register of Large Dams: MH09MH0942	04/06/2018 21/11/2018	Outlet WW & TC	Minor leakage through conduit concrete and pipe joint (A4) Minor leakage through gate and wall. (B12) Minor leakage through concrete of well. (A6) Minor leakage through masonry of ww bar. (B7) Scouring in tail channel (A7) Due to heavy flood scouring of embankment at chainage 90 to 150 m on l/s of tail channel. (A7)	Necessary repairs should be carried out. Leakages should be stopped by consulting Mechanical Organisation Necessary repairs should be carried out. Necessary repairs should be carried out. If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Extent of retrogression should be ascertained and monitors every year by mapping.If the problem of retrogression is moving upstream and serious for geological investigation the problem shall be referred to respective organization for undertaking investigations and studies for evolving suitable solution to the problem If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Extent of retrogression should be ascertained and monitors every year by mapping.If the problem of retrogression is moving upstream and serious for geological investigation the problem shall be referred to respective organization for undertaking investigations and studies for evolving suitable solution to the problem	The estimate is ready and the work is submitted for sanction towards TIDC.The work will start after getting Prapan suchi approval.

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
34	Name: KHAMKHEDA Year of Completion: 1977 Location: Longitude: 74° 46' 00 " Latitude: 21° 7' 00 " Height: 18.71 m Gross capacity: 3.88 Mm³ Spillway capacity: 579.00 cumecs Sr.No.in National Register of Large Dams: MH09MH0641	11/05/2018 13/11/2018	EE Outlet WW & TC	General condition of embankment is not good.Crest profile is not at proper elevation and not free from undulations. (B1) Top width and u/s and d/s slope are not as per design. (B3) Leakag observed from gate when it is in closed position.(About 10 to 15 lps. (B12) Leakage through masonry bar about 10 to 20 lps,left side wall between WW bar and embankment is collapsed. (B7)	Necessary repairs should be carried out. Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Leakages should be stopped by consulting Mechanical Organisation Necessary repairs should be carried out.	Estimate preparation is in progress for compliance of the remark.
35	Name: VIRKHEL Year of Completion: 1977 Location: Longitude: 74° 49' 00 " Latitude: 20° 39' 00 " Height: 15.5 m Gross capacity: 0.8 Mm³ Spillway capacity: 286.00 cumecs Sr.No.in National Register of Large Dams: MH09MH0419	09/05/2018 10/11/2018	EE WW & TC	Top width is short in all length of dam.(B1) Abnormal leakages through rock toe. Scouring on d/s side of bar.(A7) Leakage through COT is observed.(B3)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Necessary repairs should be carried out. Necessary repairs should be carried out. Necessary repairs should be carried out.	Estimate preparation is in progress for compliance of the remark.

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
(b)EXECUTIVE ENGINEER, JALGAON IRRIGATION DIVISION, JALGAON						
36	Name: AGNAWATI Year of Completion: 1989 Location: Longitude: 75° 13' 00 " Latitude: 20° 29' 00" Height: 14.83 m Gross capacity: 3.00 Mm³ Spillway capacity: 952.0 cumecs Sr.No.in National Register of Large Dams: MH09MH1225	13/06/2018 09/11/2018	Earth Dam Outlet WW&TC	Dam section is not as per design. Rain cuts are observed. (B1) Clear water standing pool observed at 60 m from d/s toe of dam between ch.1700 to 1750m. (A2) Major leakage through gate. (A4) Scouring in bottom of EDA & d/s of end wall. (A7) Leakage through right side flank wall (B7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. The d/s area at least up to above 200m. from toe, shall be free from stagnation of water The area should be well drained so as to avoid any stagnant pools of water Leakages should be stopped by consulting Mechanical Organisation Scouring on d/s to be repaired by concrete filling suitably. Necessary repairs be carried out after investigating the path of leakage.	Yet to be attended Yet to be attended Yet to be attended Yet to be attended
(c)EXECUTIVE ENGINEER, GIRNA IRRIGATION DIVISION, JALGAON						
37	Name: VALTHAN Year of Completion: 1987 Location: Longitude: 75° 04' 00 " Latitude: 20° 56' 00" Height: 14.15 m Gross capacity: 2.176 Mm³ Spillway capacity: 595.0 cumecs Sr.No.in National Register of Large Dams:- MH09LH1166	18/05/2018 26/10/2018	Earth Dam W.W&TC	Settlement is observed. (B3) Standing pool of water on d/s of dam. (A2) Scouring on d/s of w.w.bar. (A7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. The d/s area at least up to above 200m. from toe, shall be free from stagnation of water. The area should be well drained so as to avoid any stagnant pools of water. Scouring on d/s to be repaired by concrete filling suitably.	The work completed under 3R in the year 2017 The work will be completed upto Dec 2018 The work completed under 3R in the year 2017

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
38	Name: RAJDHERE Year of Completion: 1981 Location: Longitude: 74° 52' 00 " Latitude: 20° 18' 00" Height: 17.05 m Gross capacity: 1.94Mm³ Spillway capacity: 312.62 cumecs Sr.No.in National Register of Large Dams:- MH09MH0874	18/05/2018 26/10/2018	EE	Standing pool of water observed in nalla portion of d/s of dam. (A2) Water logging in nalla portion of d/s of dam. (A2) Scouring on d/s side of bar,coping is necessary at d/s of ww bar. (A7)	The d/s area at least up to above 200m. from toe, shall be free from thick vegetation. The area should be well drained so as to avoid any stagnant pools of water. Necessary remedial measures should be carried out. Necessary remedial measures should be carried out.	Yet to be attended Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
(3)SUPERINTENDING ENGINEER,JIPC , JALGAON						
(a) EXECUTIVE ENGINEER, MINOR IRRIGATION DIVISION, JALGAON						
39	Name: GANGAPURI Year of Completion: 1994 Location: Longitude: 75° 06' 00 " Latitude: 21° 21' 00" Height: 17.93 m Gross capacity: 2.392 Mm³ Spillway capacity: 380.0 cumecs Sr.No.in National Register of Large Dams: MH09MH1328	24/04/2018 21/12/2018	Outlet WW. & T.C.	Leakage observed on d/s side of conduit through pipe joint. (1 Cusecs) (A4) Scouring on d/s of EDA @ ch 15 m.to 40m. (A7) Retgression in tail channel between ch 15 m. to 40 m. & 168 m.to 229 m. (A7)	All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. Scouring should be kept under observation Necessary remedial measures should be carried out.	Yet to be attended Yet to be attended Yet to be attended
40	Name: SUR Year of Completion: 1994 Location: Longitude: 75° 06' 00 " Latitude: 21° 21' 00" Height: 17.93 m Gross capacity: 2.392 Mm³ Spillway capacity: 380.0 cumecs Sr.No.in National Register of Large Dams: MH09MH1328	12/05/2018 10/01/2019 17/01/2019	WW. & T.C.	Standing pool are observed at chainage 20 m to 90 m and d/s of earthen dam. (A2) Leakage through outlet gate upto 1 to 2 cusecs is noticed. (A4) Leakages from masonry of spillway bar is noticed. Leakage is observed from both side flank wall. (A7 & A15) Scouring in tail channel on D/S of ww bar. (A7)	The d/s area at least up to above 200m. from toe, shall be free from stagnation of water. The area should be well drained so as to avoid any stagnant pools of water. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly Scouring on d/s to be repaired by concrete filling suitably.	Yet to be attended Yet to be attended Yet to be attended Yet to be attended
41	Name: VADRI Year of Completion: 1994 Location: Longitude: 75° 42' 36 " Latitude: 28° 16' 00" Height: 27.21 m Gross capacity: 2.792 Mm³ Spillway capacity: 874.46 cumecs Sr.No.in National Register of Large Dams: MH09MH1336.	14/04/2018 16/01/2019	Outlet WW. & T.C.	Leakage through outlet gate on d/s. (A4) Leakages through pipe about 1 cusecs. (A4) Scouring in tail channel beyond chainage 452 m to 570 m.. (A7)	All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly Scouring on d/s to be repaired by concrete filling suitably.	Yet to be attended Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
42	Name: MATRAN NALLA Year of Completion: 1994 Location: Longitude: 75° 06' 00" Latitude: 21° 21' 00" Height: 17.93 m Gross capacity: 2.392 Mm³ Spillway capacity: 380.0 cumecs Sr.No.in National Register of Large Dams: MH09MH1328	17/03/2018 16/01/2019	WW. & T.C.	Retrogression @ d/s side of drop at chainage 70 m. upto 360 m. in tail channel & damages to bridge of PWD on river Pal road due to heavy flood. (A7)	If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Extent of retrogression should be ascertained and monitors every year by mapping. If the problem of retrogression is moving upstream and serious for geological investigation the problem shall be referred to respective organization for undertaking investigations and studies for evolving suitable solution to the problem.	Yet to be attended
43	Name: JONDHALKHEDA Year of Completion: 1997 Location: Longitude: 76° 20' 00" Latitude: 21° 02' 30" Height: 20.39 m Gross capacity: 2.114 Mm³ Spillway capacity: 501.00 cumecs Sr.No.in National Register of Large Dams: MH09MH1437	24/04/2018 28/12/2018	w.w. & Tail Channel	Scouring is noticed in tail channel beyond chainage 30 m. (A7) Foundation of toe wall of EDA is opened due to erosion by heavy flood. (A7) Scouring on d/s of EDA. (A7)	If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Necessary repairs should be carried out. Necessary repairs should be carried out	Yet to be attended Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
DJ CHIEF ENGINEER ,KUKADI IRRIGATION DEVELOPMENT CORPORATION,PUNE (1)SUPERINTENDING ENGINEER KUKADI IRRIGATION CIRCLE, PUNE (a) EXECUTIVE ENGINEER, KUKADI IRRIGATION DIVISION NO.2, SHRIGONDA						
44	Name: BHATODI Year of Completion: 1892 Location : Longitude: 74° 53' 00 " Latitude: 19° 03' 10" Height: 15.24 m Gross capacity: 1.05 Mm³ Spillway capacity: 760.33 cumecs Sr.No.in National Register of Large Dams: MH09MH0019	21/05/2018 18/11/2018 22/02/2019	Outlet W.W&TC	Out of four outlet gates only one is in working condition. (B5) Masonry and concrete of spillway is breached. (B7) Heavy Scouring noticed on d/s side of bar. (A7) Retrogression in tail channel.E.D.A is not in good condition. (A7)	The repairs shall be carried out either through mechanical organisation, or under it's advice. Causes to be investigated & necessary repairs to be carried out. Scouring on d/s to be repaired by concrete filling suitably. If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Extent of retrogression should be ascertained and monitors every year by mapping. If the problem of retrogression is moving upstream and serious for geological investigation the problem shall be referred to respective organization for undertaking investigations and studies for evolving suitable solution to the problem.	Yet to be attended Yet to be attended Yet to be attended Yet to be attended
45	Name: TELENGHASHI Year of Completion: 1975 Location : Longitude: 75° 26' 00 " Latitude: 18° 20' 00" Height: 17.12 m Gross capacity: 1.070 Mm³ Spillway capacity: 218.40 cumecs Sr.No.in National Register of Large Dams: MH09MH0486	NR 21/11/2018	Outlet WW&TC	Repairs to outlet well masonry & cleaning of well is required. (A6) Bar is not in good condition.Leakage through masonry.Major repairs are required. (B7) Damages to concrete in bucket. (A14) Leakages through guide wall. (A14)	Necessary repairs to be carried out. Location & amount of leakages shall be monitored and if large then necessary treatment in the affected area & on its u/s may be carried out to minimize leakage Damaged portion shall be repaired on priority. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly.	Yet to be attended Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
46	Name: VISAPUR Date of Completion: 1926 Location : Longitude: 74° 34' 55 " Latitude: 18° 48' 46" Height: 25.60 m Gross capacity: 26.10 Mm³ Design spillway capacity: 1968 cumecs Sr.No.in National Register of Large Dams: MH09HH0054	17/05/2018 29/11/2018	Drains W.W&TC	Drains are fully silt up and growth of vegetation is observed. (B2) Scouring on d/s side of bar. (A7) Scouring noticed in tail channel up to 60 m length. (A7)	Necessary repairs should be carried out. Scouring on d/s is to be repaired by concrete filling suitably. Scouring is to be monitored. Scouring on d/s to be repaired by concrete filling suitably. .	Yet to be attended Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
47	Name: GHODEGAON Year of Completion: 1972 Location : Longitude: 74° 44' 58 " Latitude: 18° 36' 56" Height: 16.86 m Gross capacity: 2.995 Mm³ Spillway capacity: 1271.13 cumecs Sr.No.in National Register of Large Dams: MH09MH0528	17/05/2018 29/11/2018	Earth Dam WW&TC	Section is not as per design. Local depression & settlement in George portion is noticed. (B1 & B3) Longitudinal cracks & rain cuts observed. (B4) Scouring on d/s side of bar in tail channel 10 m. from bar. (A7)	Dam section is to be brought to correct design profile and level by adding earthwork duly compacted properly. Longitudinal cracks shall be excavated & filled with by soil & sandy material with proper proportion and rain cuts be filled by heavy drainable casing material. Scouring on d/s to be repaired by concrete filling suitably.	Yet to be attended Yet to be attended Yet to be attended
E]CHIEF ENGINEER, SMALL SCALE IRRIGATION (WATER CONSERVATION) , MAHARASHTRA STATE, PUNE (1)SUPERINTENDING ENGINEER, SMALL SCALE IRRIGATION (WTER CONSERVATION)CIRCLE, NASHIK (a) EXECUTIVE ENGINEER, SMALL SCALE IRRIGATION (WATER CONSERVATION) DIVISION, DHULE						
48	Name: THANEPADA Year of Completion: 1993 Location : Longitude: 74° 06' 22 " Latitude: 21° 20' 40 " Height: 19.44 m Gross capacity: 1.933 Mm³ Spillway capacity: 159 cumecs Sr.No.in National Register of Large Dams: MH09MH1151	09/05/2018 13/12/2018	Earth Dam W.W. bar & tail channel.	Settlement of embankment & Rain cuts are observed. (B3) Minor leakage on D/S of slope is observed. (A2)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly.	Soil & Water conservation subdivision ,Nandurbar is preparing the estimate or repaire to MI tank. Provision to correct design profile & level by adding earthwork is taken in preparation of repaire estimate.

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
				<p>Leakages through Flank wall & guide wall are observed.(A15)</p> <p>Scouring at D/S side of ww bar.(A7)</p> <p>Some portion of guide bund is washed away.(B7)</p>	<p>Necessary repairs should be carried out. Causes of leakages should be investigated & treated accordingly.</p> <p>Scouring is to be monitored. Scouring on d/s to be repaired by concrete filling suitably.</p> <p>Necessary repairs should be carried out.</p>	<p>Provisions to mitigate the leakages is taken in preparation of estimate.</p> <p>Provisions to mitigate the leakages is taken in preparation of estimate.</p> <p>Provisions to mitigate the scouring is taken in preparation of estimate.</p> <p>Soil & Water conservation subdivision ,Nandurbar is preparing the estimate or repaire to MI tank.</p>

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
(b)EXECUTIVE ENGINEER,SSI. (W.C.) DN. NASHIK						
49	Name: ALANGUN Year of Completion: 2004 Location: Longitude: 73° 33' 36 " Latitude: 20° 33' 20 " Height: 21.7 m Gross capacity: 0.806Mm³ Spillway capacity: 21.70 cumecs Sr.No.in National Register of Large Dams: MH09LH2028	28/05/2018 26/12/2018	WW & TC	L/s waste weir outflanking occurred during heavy rain on 29/8/2011. Much more scouring on d/s of w.w(B7) D/S guide bund of w.w. bar & d/s tail channel is washed out since 29/08/2011.(B7)	Necessary repairs to be carried out Necessary repairs to be carried out	Yet to be attended Yet to be attended
50	Name: CHINCHAVE Year of Completion: 2005 Location: Longitude: 74° 29'00 " Latitude: 20° 07' 00 " Height: 17.30 m Gross capacity: 1.873Mm³ Spillway capacity: 565.00 Cumecs Sr.No.in National Register of Large Dams: MH09LH2028	01/05/2018 26/10/2018 29/03/2019	EE	D/S slope is eroded between ch. 490 to 600 m.Crest profile is having irregular top width.2 to 3 m.Top level is undulating with local depression (B1 & B3) Settlement of embankmentbetween ch 320 to 330 m.(B3) Heavy raincuts on d/s slope are observed.(B4) Top width , d/s slope not in proper design.(B1) Settlement of pitching at ch.490 to 520 m Standing pool of water between ch.270 to 280 m.(A2)	Necessary repairs to be carried out Necessary repairs to be carried out Necessary repairs to be carried out Necessary repairs to be carried out Causes of leakage should be found out & necessary repairs should be done..	Yet to be attended Yet to be attended Yet to be attended Yet to be attended Yet to be attended

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
			Outlet	<p>Leakage through dam earth work between ch. 490 to 600 m.(A1)</p> <p>Wet patches on D/S side @ ch.350 to 380 m.ch. 490 to 520 m. ch.690 to720 m.(A1)</p> <p>Outlet gate is not in working condition .It seems to be jammed.(B5)</p> <p>About 1 cusecs leakage through gate.(A4)</p>	<p>Causes of leakage should be found out & necessary repairs should be done</p> <p>Necessary repairs to be carried out</p> <p>Necessary repairs to be carried out</p> <p>Causes of leakage should be found out & necessary repairs should be done.</p>	<p>Yet to be attended</p> <p>Yet to be attended</p> <p>Yet to be attended</p> <p>Yet to be attended</p>
51	<p>Name:Dudgaon Year of Completion: 1999 Location: Longitude: 73° 38'20 " Latitude: 19° 58' 53 " Height: 17.30 m Gross capacity:2.00 Mm³ Spillway capacity: 567.74 Cumecs Sr.No.in National Register of Large Dams:MH09LH2046</p>	<p>20/05/2018 03/10/2018</p>	<p>Drains</p> <p>Outlet</p> <p>WW &TC</p>	<p>Abnormal leakage through rock toe in George portion.</p> <p>Minor leakage in well is observed.(A6)</p> <p>Some piping is noticed through joints between earthwork and outlet.(A5)</p> <p>Leakage in guide wall & flank wall.</p>	<p>Causes of leakage should be found out & necessary repairs should be done.</p> <p>Causes of leakage should be found out & necessary repairs should be done.</p> <p>Necessary repairs to be carried out</p> <p>Causes of leakage should be found out & necessary repairs should be done.</p>	<p>Yet to be attended</p> <p>Yet to be attended</p> <p>Yet to be attended</p> <p>Yet to be attended</p>

Table 1.7

Action Taken Report on Deficiency Category-1 of Private dams Class I

Sr.No.	Name of Dam	Date of Inspection	Main component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
<p>-----This region does not have Class-I private dam -----</p>						

Table 1.8

Action Taken Report on Deficiency Category-2 of Private dams Class I

Sr.No.	Name of Dam	Date of Inspection	Main component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
<p>-----This region does not have Class-I private dam -----</p>						

Table 1.9

Action Taken Report on Deficiency Category-1 of Private dams Class II

Sr.No.	Name of Dam	Date of Inspection	Main component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
<p align="center">----- No Such Dams under this category is reported -----</p>						

Table 1.10

Action Taken Report on Deficiency Category-2 of Large Private Dams Class- II

Sr. No.	Name of Dam	Date of Inspection	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
SUPERINTENDING ENGINEER, MAHARASHTRA JEEVAN PRADHIKARAN, WATER MANAGEMENT CIRCLE, AURANGABAD EXECUTIVE ENGINEER, MAHARASHTRA JEEVAN PRADHIKARAN, WATER MANAGEMENT DIVISION, NASHIK						
1.	Name: Talegaon Year of Completion:- 1987 Location : Longitude:- 73° 32' 37 " Latitude: - 19° 40' 42 " Height: 21.80 m. Gross capacity 11.68 Mm³ Spillway capacity: 36.00 cumecs Sr.No.in National Register of Large Dams: MH09LH2058	28/11/2018 19/03/2019	Earth Dam W.W bar & T.C.	Some stagnant water in nalls portion & at one place D/S of dam toe was observed. (A2) Ungated spillway bar is found in unfinished condition. Also height of both the flank wall of W.W. bar should be increased upto dam top level. (B7)	Stagnant Water should be drained out properly & record should be maintained against reservoir water levels. Remaining work of W.W. bar should be carried out immediately.	Yet to be attended Yet to be attended

**Annual Consolidated Health Status Report
Of Identified Large Dams In
North Maharashtra Region**

PART – 2

**Annual Health Status Report of
Identified Large Dams Based On Pre & Post Monsoon 2019 Inspection
Reports
(Year 2019)**

PART – 2 Annual Health Status Report of Identified Large Dams Based on Pre & Post Monsoon 2019 Inspection Reports

2.1 General

The Government of Maharashtra has issued instructions for pre and post monsoon inspection of the dams. Dam Safety Organisation, Nashik has issued guidelines regarding questionnaire for inspecting dams by field officers vide letter (Marathi) DSO/DSD-III/128/47/dated 19-1-1998 and also conveyed discrepancies, errors & omissions noticed after the scrutiny of inspections reports time to time. It is again requested to issue orders to field officers to perform careful inspection according to the guidelines for proper monitoring of safety of dams.

The important information like time schedule of inspection, classification of dams, competent authority of dam inspection, preparation of health status report, categorization of deficiencies, monitoring of deficiency removal program, standard procedure for confirmation and removal of category – I deficiency and suggestions for inspection by field officers are given vide Annexure – 1.

Considering the various deficiencies observed over dams of Maharashtra over last few years , Dams Safety Organisation have standardized the category wise deficiencies and these are given vide Annexure – 2.

2.2 Inspections of dam.

A systematic approach & working methodology is very essential to monitor the safety aspects of the dams. Maharashtra which is one of the pioneer state has established an elaborate set up for effective monitoring of dams. The periodical inspections of dams are completed by concerned field officers and the inspection reports are sent to Dam Safety Organisation for further action.

Dam Safety Organisation Nashik carries out scrutiny of the inspection reports received from field officers for class-I & II dams, significant & serious deficiencies observed during scrutiny are immediately intimated to field officers to carry out remedial measures. To keep a check on the inspections carried out at field level, Test inspections are carried out by Dam Safety Organisation as a third party inspection. The annual Dam inspection program of Dam Safety Organisation is prepared and is sanctioned by Director General ,(D.T.H.R.S.) M.E.R.I., Nashik. In Maharashtra, there are about 52 private dams owned by Tata Power, Sahara India Pvt.Ltd.etc. and by Urban Local bodies and Power generation companies. Dam Safety Organisation carries out pre and post monsoon inspections of private dams on consultancy basis.

For North Maharashtra Region following officers were inspected dams and taken efforts to prepare this report.

- 1) Y.K.Bhadane, Superintending Engineer
- 2) P.H.Mohite,, Executive Engineer
- 3) V.S.Dhondage, Sub Divisional Officer
- 4) S.W.Gaidhani, Sub Divisional Officer
- 5) G.P.Vadnerkar, Sectional Engineer.
- 6) A.A.Shingare, Junior Engineer

2.2.1 Dam inspection by field officers

There are 67 no. of Class - I Govt. dams (64 dams & 03 barrages) & 230 nos. Class - II dams in North Maharashtra region. Out of these, 37 Class-I and 15 Class -II dams pre monsoon inspection reports were received as per schedule. And for post monsoon inspection of only 25 Class-I dams were reported within time schedule given in inspection Proforma. However as on 15/05/2020 inspection reports (either pre or post) of 67 class-I dams and 230 class-II dams are received and have been incorporated in this status report. The circle office wise breakup of dams and status of inspection report received is given in Table 2.1. List of dams of which inspection report were not received in DSO from field officers is given in table no. 2.2.

2.2.2 Dam Inspection by Dam Safety Organisation.

As per Annual inspection programme, DSO has inspected 07 nos. Class-I dams and 25 nos. of Class-II dams. 08 Nos. of Class II Private dams in the region were also inspected by DSO on consultancy basis. List of dams inspected is given in Table 2.3. Also the photographs of some of inspections by Dam Safety Organisation are appended as Annexure – 3

2.3 Overall health status of large dams

Circlewise number of large dams in North Maharashtra region where deficiencies are noticed are summarized and given in table no.-2.4. Damwise number of category – II deficiencies noticed are given in table no 2.5. There are 56 dams from overall 306 dams , where category – II deficiencies are noticed. Agency wise, dam wise and category wise detailed status is given in next sections.

2.4 Health status report of Class-I dams

2.4.1 Health status report of Class-I dams with Category-1 deficiency.

Out of 67 dams Nil dams are reported under this category.

Details of Class-I dams with category 1 deficiency are given in table 2.6.

2.4.2 Health status report of Class-I dams with Category-2 deficiency.

Out of 67 dams 08 dams have been identified as having category-2 deficiencies. Details of class – I dams, with category – 2 deficiencies are given in table 2.7.

2.4.3 Health status report of Class-I dams with Category-3 or NIL deficiency.

Out of 67 dams 58 dams have been identified as having category-3 deficiencies. And 01 dam have NIL deficiencies. Details of class-I dams with category – 3 or Nil deficiency are given in table 2.8.

2.5 Health status report of Class-II dams

2.5.1 Health status report of Class-II dams with Category-1 deficiency.

Out of 230 dams NIL dams are reported under this category. Details of class – II dams, with category – 1 deficiencies are given in table 2.9.

2.5.2 Health status report of Class-II dams with Category-2 deficiency.

Out of 230 dams 47 dams have been identified as having category-2 deficiencies. Details of class – II dams, with category – 2 deficiencies are given in table 2.10.

2.5.3 Health status report of Class-II dams with Category-3 or NIL deficiency.

Out of 230 dams 176 dams have been identified as having category-3 deficiencies and 07 dams having NIL deficiencies. Details of class – II dams, with category – 3 or Nil deficiencies are given in table 2.11.

2.6 Health status report of Class-III dams

2.6.1 Criteria of Inspection of Class –III dams.

The Govt. of Maharashtra has restricted the scope of DSO in monitoring safety aspects to the extent of identified large dams i.e. Class-I and Class-II dams only in view of large no. of dams and limited staff of DSO. The safety monitoring of other large dams (Class-III) including preparation of HSR rests with the respective regional Chief Engineers.

Hence every year for Class III dams, based on inspection report, HSR of Class – III dams need to be prepared by respective Chief Engineer and sent it to Dam Safety Organisation for record.

2.6.2 Districtwise and classwise break up of number of dams

Class wise Number of dams in each district are given as below..

District	Large Dam Class- I	Large Dam Class- II	Large Dam Class- III	Grand Total
NASHIK	23	92	19	134
AHMADNAGAR	13	32	35	80
DHULE	09	36	14	59
NANDURBAR	08	36	05	49
JALGAON	14	34	74	122
TOTAL	67	230	147	444
PRIVATE	01	08	00	09
GRAND TOTAL	68	238	147	453

Graphical representation of district wise and class wise dams in the region is given vide

Chart No.1

2.7 Health status report of Private Class-I dams

2.7.1 Health status report of Private Class-I dams with Category-1 deficiency.

NIL no. of class-I private dams are there in this category. Details of class-I Private dams with category 1 deficiency given in Table 2.12.

2.7.2 Health status report of Private Class-I dams with Category-2 deficiency.

NIL no. of class-I private dams are there in this category. Details of class-I private dams with category 2 deficiency given in Table 2.13.

2.7.3 Health status report of Private Class-I dams with Category-3 deficiency.

01 no. of class-I private dams is there in this category. Details of class-I private dams with category 3 deficiency given in Table 2.14.

2.8 Health status report of Private Class-II dams

2.8.1 Health status report of Private Class-II dams with Category-1 deficiency.

Out of 08 dams NIL dams are reported under this category. Details of class-I Private dams with category 1 deficiency given in Table 2.15.

2.8.2 Health status report of Private Class-II dams with Category-2 deficiency.

Out of 08 dams all the 01 dams have been identified as having category-2 deficiencies. Details of class-I Private dams with category 2 deficiency given in Table 2.16

2.8.3 Health status report of Private Class-II dams with Category-3 deficiency.

Out of 08 dams all the 07 dams have been identified as having category-3 deficiencies. Details of class-I Private dams with category 3 deficiency given in Table 2.17.

2.9 Observations

1. Significant category I & II Deficiency wise list of dams for Class-I & Class-II dams is given in Table 2.18 and in Table 2.19 respectively. Also graphical representation of significant category I & II deficiencies observed for Class-I & II dams are shown in chart 2 & chart -3 respectively.

2. Top five major deficiencies found in **Class-I** dams in **North Maharashtra Region** are as follows -

- a) **A 2**: Standing pool / Ponding / Water Logging / Slushy condition on D/S of Dam-(02 Dams)
- b) **A 10** : Heavy leakages through porous pipes/ through dam body in gallery /monolith joints.- (02 Dams)
- c) **A 12** : Excessive considerable leaching from seepage water.- (02 Dams)
- d) **A 14** : EDA / Stilling basin damaged/Hydraulic performance not good.--(02 Dams)
- e) **A 16** : Damages / foundation erosion/ scour/undermining observed in vicinity of flank walls/ guide walls/ junction walls/return walls – (02 Dams)

3. Likewise top five major deficiencies found in **Class-II** dams are –

- a) **A 7** : Retrogression /scouring in tail channel. - (24 Dams)
- b) **A4**:Major leakage through outlet conduit/pipe joints/gates-) 23 Dams
- c)**B 1** Dam section is not as per design- (24 Dams)
- d) **B 7**: Waste weir/waste weir bar not in good condition/coping damaged/leakage through waste weir – (16 Dams)
- e) **A6** : Outlet well is damaged/not in good condition/cracks observed/jets of water in well- (14 Dams)

Table 2.1

Status of receipt of Pre / Post monsoon inspection reports -2019

Sr No	Name of Office	Total dams			Both Pre & Post IR received			Either Pre or Post IR not received			Pre & Post both IR not received		
		Class -I	Class -II	Total	Class-I	Class -II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	[1] C.E., NMR, Nashik												
1	CADA, Nashik	28	77	105	28	77	105	00	00	00	00	00	00
								00	00				
2	CADA, Ahamadnagar	02	00	02	02	00	02	00	00	01	00	00	00
								01	00				
	[2] CE, TIDC, Jalgaon												
3	DIPC, Dhule	10	12	22	10	12	22	00	00	00	00	00	00
								00	00				
4	CADA, Jalgaon	18	76	94	18	76	94	00	00	00	00	00	00
								00	00				
5	JIPC, Jalgaon	07	17	24	07	17	24	00	00	00	00	00	00
								00	00				
	[3] CE, Kokan Region , Mumbai												
6	TIC, Thane	01	21	22	01	21	22	00	00	06	00	00	00
								00	06				
	[4] C.E., (SP), Pune												
7	KIC, Pune	01	16	17	01	16	17	00	00	01	00	00	00
								01	00				
	[6] SSI (WC), Pune												
8	SSI(WC), Nashik	00	11	11	00	11	11	00	00	00	00	00	00
								00	00				
	PRIVATE DAMS												
9	DSO, Nashik	01	08	09	00	06	06	00	04	04	01	00	01
								00	00				
	Grand Total	68	238	306	67	236	302	02	10	12	01	00	01

Table 2.2

List of Dams of which Inspection Reports were not received

Sr. No	Name of Office	Name of Dam of which inspection reports not received					
		Both for Pre & Post-2019		Either for Pre or Post-2019			
				Pre monsoon 2019		Post monsoon 2019	
		Class-I	Class-II	Class-I	Class-II	Class-I	Class-II
1	2	3	4	5	6	7	8
1	[1] CE, North Maharashtra Region, Nashik						
	CADA, Nashik						
	CADA, Ahamadnagar					1)Bham	
2	[2] CE ,TIDC, Jalgaon						
	CADA,Jalgaon						
	DIPC,Dhule						
	JIPC,Jalgaon						
3	[3] C.E.Kokan Region Mumbai						
	TIC,Thane						1)Pimpraj 2)Ambegan 3)Chafyachapada 4)Zarlipada 5)Dhondalpada 6)Nanashi
4	[4]C.E.(SP), Pune						
	KIC,Pune					1)Sina	
5	[5]C.E.SSI (WC) Pune						
	SSI (WC) Nashik						

Table 2.3**List of dams inspected by Dam Safety Organisation, Nashik**

Officers from Dam Safety Organisation Nashik have inspected following dams from 01/04/2019 to 31/03/2020 and inspection notes have been issued to concerned field officers.

Sr.No.	Name of Dam	Category	Date of Inspection
Class-I Dams			
1	Amravati	I	14/11/2019
2	Kordinalla	I	14/11/2019
3	Ghoti Shilvandi	I	06/03/2020
4	Sulwade Barrage	I	18/03/2020
5	Sarangkheda Barrage	I	18/03/2020
6	Hatnur	I	19/03/2020
7	Suki	I	19/03/2020
Class-II Dams			
8	Inambari	II	20/09/2019
9	Aad	II	20/09/2019
10	Kabryakhadak	II	14/11/2019
11	Malangaon	II	14/11/2019
12	Nesu	II	15/11/2019
13	Chauapale	II	15/11/2019
14	Singaspur	II	15/11/2019
15	Odhare	II	17/01/2020
16	Mukti	II	17/01/2020
17	Nanduri	II	25/02/2020
18	Gobapur	II	25/02/2020
19	Markand pimpri	II	25/02/2020
20	Dardedigar	II	25/02/2020
21	Rameshwar	II	25/02/2020
22	Parsul	II	25/02/2020
23	Ambad	II	26/02/2020
24	Sadgaon ladchi	II	26/02/2020
25	Alandi	II	26/02/2020
26	Bardari	II	04/03/2020
27	Kaudgaon	II	04/03/2020
28	Belapur Badagi	II	06/03/2020
29	Khaperkheda	II	17/03/2020
30	Shahane	II	17/03/2020
31	Chirada	II	17/03/2020
32	Paladhi	II	20/03/2020

Sr.No.	Name of Dam	Category	Date of Inspection
Private Dams -			
Class-I			
33	Chehedi Bandhara	I	-
Class-II			
34	Dahegaon	II	- 20/12/2019(Post)
35	Wagdardi	II	- 20/12/2019(Post)
36	Motinalla	II	24/06/2019(Pre) 16/01/2020(Post)
37	Dedargaon	II	24/06/2019(Pre) 16/01/2020(Post)
38	Talegaon	II	- 10/12/2019(Post)
39	Bara Bunglow	II	- 10/12/2019(Post)
40	Talwade	II	25/06/2019(Pre) 16/01/2020(Post)
41	Malmatha	II	25/06/2019(Pre) 16/01/2020(Post)

Table 2.4

Circle wise no. of large dams where deficiencies are noticed

Sr. No	Name of Circle	Total No. of Dams			Large Dam Class-I			Large Dam Class-II		
		Class-I	Class-II	Total	Def. Cat-1	Def. Cat-2	Def. Cat-3	Def. Cat-1	Def. Cat-2	Def. Cat-3
1	2	3	4	5	6	7	8	9	10	11
[1] CE North Maharashtra Region, Nashik										
(1)	CADA, Nashik	28	77	105	00	03	25	00	10	67
(2)	CADA, Ahamadnagar	02	00	02	00	00	02	00	00	00
[2] CE, TIDC, Jalgaon										
(1)	CADA, Jalgaon	18	76	94	00	02	16	00	23	53
(2)	DIPC, Dhule	10	12	22	00	01	09	00	00	12
(3)	JIPC Jalgaon	7	17	24	00	01	06	00	04	13
[3] C.E, Kokan Region , Mumbai										
(1)	TIC, Thane	01	21	22	00	00	01	00	04	17
[4] C.E, (SP), Pune										
(1)	KIC, Pune	01	16	17	00	01	00	00	03	13
[5] C.E, SSI (WC)Pune										
(1)	SSI(WC), Nashik	00	11	11	00	00	00	00	03	08
	Total	67	230	297	00	08	59	00	47	183
Private										
(1)	Private Dams	01	08	09	00	00	01	00	01	07
	Grand Total	68	238	306	00	08	60	00	48	190

Table 2.5

Dam wise number of Category-2 deficiencies noticed

Sr. No	Name of Dam	No. of deficiencies noticed
1	2	3
Class-I Dams		
[1] CHIEF ENGINEER NMR NASHIK		
(1)C.A.D.A., NASHIK.		
1	Bhandardara	05
2	Balthan	02
3	Mula	03
[2] CHIEF ENGINEER TIDC,JALGAON		
(1)C.A.D.A., JALGAON		
4	Ranipur	03
5	Manyad	04
(2)DIPC,DHULE		
6	Punand	04
(3)JIPC,JALGAON		
7	Gul	07
[2] CHIEF ENGINEER ,SP,PUNE		
(1) KUKADI IRRIGATION CIRCLE, PUNE		
8	Sina	04
Class-II Dams		
[1] CHIEF ENGINEER NMR NASHIK		
(1)C.A.D.A., NASHIK.		
9	Tringalwadi	02
10	Taloshi	01
11	Mahiravani	06
12	Rankheda	02
13	Jamlevani	05
14	Talwade Bhamer	03
15	Bhadane	04
16	Ghodambe	05
17	Shinde	04
18	Ambit	02
[2] CHIEF ENGINEER KOKAN REGION, MUMBAI		
(1) TIC,THANE		
19	Bubli	03
20	Aad	02
21	Jategaon	03
22	Inambari	05

[3] CHIEF ENGINEER TIDC,JALGAON		
(1)CADA,JALGAON		
23	Mukti	04
24	Mahupada	04
25	Khaparkheda	06
26	Wakwad	03
27	Nandre	05
28	Kholghar	05
29	Dhanibara	10
30	Khandlay	06
31	Khokasa	06
32	Shelbari	02
33	Chhavadi	04
34	Haldani	05
35	Rajdehare	03
36	Virkhel	04
37	Jalod	03
38	Gadhad deo	05
39	Agnawati	05
40	Kabryakhadak	06
41	Khamkheda	03
42	Krushnapuri	03
43	Shewade	01
44	Khehada	04
45	Rozawa	01
(2),JIPC,JALGAON		
46	Gangapuri	03
47	Sur	07
48	Matran Nalla	01
49	Jondhalkheda	03
[4] CHIEF ENGINEER ,SP,PUNE		
(1) KIC,PUNE		
50	Visapur	04
51	Talanghashi	05
52	Naigaon	05
[5] CHIEF ENGINEER SSI PUNE		
(1)SSI NASHIK		
53	Thanepada	05
54	Alangun	02
55	Chinnchave	12
Private Dams (Class-II)		
Maharashtra Jeevan Pradhikaran, Water Management Division,Nashik		
56	Talegaon	02

Table 2.6

Dam wise Health status report of Class-I dams with category-1 deficiency

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Observation / Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
<p>----- No Such Dams under this category is reported -----</p>						

Table 2.7

Damwise Health status report of Class-I dams with category-2 deficiency

[illegible]

Sr. No.	Dam Features	Date of inspection	Inspecting Officer	Main component of dam	Observations / Significant deficiencies noticed.	Remedial measures suggested.
1	2	3	4	5	6	7
2	Name- BALTHAN Year of Completion: 2008 Location Longitude: 73° 49' 00" Latitude: 19° 28' 00" Height: 28.52 m Gross capacity: 5.72 Mm³ Spillway capacity: 318.22 m³/sec Sr. No. in National Register of Large Dams :- MH09MH1936	13/05/2019 28/12/2019	Shri. R.M.More S.E. & Adm. CADA Nashik	Waste Weir bar & T.C. Outlet	Panels in stilling basin were dislodged and washed away. (A14) The energy dissipation working arrangement, is not satisfactory for all the discharges. (A14)	Damaged pannels should be reconstructed in consultation with S.E. (Dams) CDO Nashik Necessary repairs should be carried out
(d) MULA IRRIGATION DIVISION,AHEMADNAGAR						
3	Name:- MULA Year of Completion: 1971 Location Longitude: 74° 34' 30" Latitude: 19° 21' 30" Height: 46.67 m Gross capacity: 736.32 Mm³ Spillway capacity:- 5946.53 m³/sec Sr. No. in National Register of Large Dams :- MH09HH0316	15/06/2019 20/01/2020	Shri. R.M.More S.E. & Adm. CADA Nashik	Earth dam Body Wall Spillway gates	There is sign of water logging slushy condition on d/s of dam. (A2) Considerable leaching from seepage water and deposition of lime near seepage is observed. (A12) Life is overdue for full length of the chain or wire rope of the hoist. (A18)	The d/s area at least up to above 200m. from toe, shall be free from stagnation of water. The area should be well drained so as t avoid any stagnant pools of water Proper remedial measures should be taken in consultation with MERI, Nashik Necessary repairs should be carried out.

Sr. No.	Dam Features	Date of inspection	Inspecting Officer	Main component of dam	Observations / Significant deficiencies noticed.	Remedial measures suggested.
1	2	3	4	5	6	7
[B] CHIEF ENGINEER, TAPI IRRIGATION DEVELOPMENT CORPORATION, JALGAON						
(1) CADA, JALGAON.						
(a) DHULE IRRIGATION DIVISION, DHULE						
4	Name :- RANIPUR Year of Completion: 1999 Location Longitude: NA Latitude: Na Height: 40 m Gross capacity: 43.90 Mm³ Spillway capacity: Ungated Sr. No. in National Register of Large Dams:- MH09HH1481	18/05/2019 28/11/2019	Shri. S.J.Wanjari SE & Adm. CADA Jalgaon	W.W&T.C Outlet	Waste weir bar needs to be arrested by provision of concrete structure wall. (B7) Conduit is fully choked by incident of 2006. (B5) Conduit get choked by debris . Gate system can not be Operated. (B5)	Necessary repairs should be carried out. Siltation should be removed from conduit for free flow of water.
(b) GIRNA IRRIGATION DIVISION, JALGAON						
5	Name :- MANYAD (JALGAON) Year of Completion: 1973 Location Longitude: 74° 48' 00" Latitude: 20° 29' 00" Height: 45.00 m Gross capacity: 53.98Mm³ Spillway capacity: 3755 m³/sec Sr. No. in National Register of Large Dams:- MH09HH0387	03/05/2019 03/12/2019	Shri. S.J.Wanjari SE & Adm. CADA Jalgaon	W.W. Bar & tail channel EDA	Foundation erosion in Guide/Dvide /Junction, Need to reparaire Immediately (A16) Erosion occurred in both wall No.1 & 2 in tail channel. (A16) Erosion on D/S in both E.D.A. & wall No.1 (A14) Apron is also washed away Need to reparaire immediately (A14)	Necessary repairs should be carried out.. Necessary repairs should be carried out. Necessary repairs should be carried out. Proper measures to control the erosion should be carried out. Apron should be reconstructed with consultation of CDO Nashik

Sr. No.	Dam Features	Date of inspection	Inspecting Officer	Main component of dam	Observations / Significant deficiencies noticed.	Remedial measures suggested.
1	2	3	4	5	6	7
(2) JALGAON IRRIGATION PROJECT CIRCLE, JALGAON (a) JALGAON MEDIUM PROJECT DIVISION No.1, JALGAON						
6	Name :- GUL Year of Completion: 2009 Location Longitude: 75° 22' 40" Latitude: 21° 19' 00" Height: 31.33 m Gross capacity: 23.25 Mm³ Spillway capacity:- 1823.00 m³/sec Sr. No. in National Register of Large Dams :- MH09MH1955	09/05/2019 15/11/2019	Shri. A.S.More S.E. J.I.P.C. Jalgaon		Wet/ slushy patches observed in Gorge portion from Ch. 635m to 655m. (A1) In Inspection gallery lighting should be done. (A8) Stairs are slippery needs to be cleaned. (A8) Excessive leakages at Ch. 142m. due to monoethic joint should be rectify. (A10) Seepages at 3 to 4 locations needs to be repaired. (A10) Stand by Generator needs to be repaired. (A19) Stem rod of Left bank HR is slightly aligned/slant (B5)	Necessary measures should be carried out. Necessary measures should be carried out. Necessary measures should be carried out. Necessary measures should be carried out. Necessary measures should be carried out. Necessary measures should be carried out.

Sr. No.	Dam Features	Date of inspection	Inspecting Officer	Main component of dam	Observations / Significant deficiencies noticed.	Remedial measures suggested.
1	2	3	4	5	6	7
(2) DHULE IRRIGATION PROJECT CIRCLE, DHULE						
(a) GIRNA RIVER VALLEY PROJECT DIVISION, NASHIK						
7	Name :- PUNAND Year of Completion: 2011 Location Longitude: 73° 52' 30" Latitude: 20° 37' 30" Height: 42.225 m Gross capacity: 39.75 Mm³ Spillway capacity:- 1985.00 m³/sec Sr. No. in National Register of Large Dams :- MH09MH1820	30/05/2019 29/11/2019	Shri. M.S.Amale SE, DIPC, Dhule	Foundations D/S Drainage EDA River Sluice	Drainage gallery is full of water. Lighting arrangement done but required to be repaired. (A10) Due to rock erosion, pond developed at D/S of apron as per suggested by CDO cement concrete Up to Ch. 57.85 m. is in progress (A16) Due to rock erosion, pond developed near D/S of apron near R/S guide wall (Ch. 58.85 m. to 75 m. D/S side) (A16) Rock erosion found near D/S of apron of spillway. (A16)	Grouting is necessary for OF & NOF section. Also behaviour of gallery should be kept under observation Necessary repairs should be carried out. Necessary repairs should be carried out Necessary measures should be carried out.
[B] CHIEF ENGINEER, WATER RESOURCES, PUNE						
(1) KUKADI IRRIGATION CIRCLE, PUNE						
(a) KUKADI IRRIGATION PROJECT DIVISION NO.2, AHMEDNAGAR						
8	Name :- SINA PROJECT Year of Completion: 2011 Location Longitude: 73° 52' 30" Latitude: 20° 37' 30" Height: 42.225 m Gross capacity: 39.75 Mm³ Spillway capacity:- 1985.00 m³/sec Sr. No. in National Register of Large Dams :- MH09HH1142	23/05/2019 -----	Shri H.T. Dhumal SE, Kukadi Irrigation Circle, Pune	Earth Dam W.W.bar & tail channel Outlet Outlet Outlet Gates	As per past record, at ch.1500m there is a pond on d/s toe of dam at a distance of 50.0m from toe of earthen dam (A2) The scouring on D/s side of end weir @ 3.0 m distance is observed. (A7) Leakages through E.G. observed. LBC Emergency gate not operated properly. (A4) Actual operations of lifting & lowering of the gates and hoist mechanisms is not adequate and smooth. (A20)	Necessary measures should be carried out. Necessary measures should be carried out. Necessary repairs / replacement should be carried out with the help of Mechanical Organisation Necessary repairs / replacement should be carried out with the help of Mechanical Organisation.

Table 2.8

Damwise Health status report of Class-I dams with category-3 deficiency

Sr. No	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design spillway Capacit (m3/ Sec)	Sr No.of Large Dam in National Register	Date of Inspection	Deficiencies Noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11
[A] CHIEF ENGINEER NMR NASHIK (1)SUPERINTENDING ENGINEER & ADMINISTRATOR, CADA, NASHIK (a)EXECUTIVE ENGINEER, NASHIK IRRIGATION DIVISION, NASHIK										
1	Bhojapur	1972	70° 03' 00" 19° 41' 20"	13.66	32.41	1488	MH09HH1142	15/06/2019 27/12/2019	3.1, 3.26, 3.9, 3.16, 3.19, 3.31, 3.6, 3.30, 3.28, 3.24, 3.27	11
2	Gangapur	1965	73° 19' 00" 20° 35' 00"	36.59	215.88	2294	MH09HH0113	30/05/2019 26/11/2019	3.25, 3.19, 3.20, Cat-3	04
3	Mukane	1995	73° 39' 00" 19° 48' 00"	26.93	214.16	1938	MH09MH1380	30/05/2019 05/12/2019	3.22, 3.7, 3.1, 3.26, 3.9, 3.25, 3.23, 3.31, 3.28, 3.11, 3.27, 3.20, 3.6, 3.30, 3.28	15
4	Waldevi	2003	73° 04' 00" 19° 54' 00"	38.50	41.91	809	MH09HH1376	30/05/2019 05/12/2019	3.1, 3.26, 3.9, 3.25, 3.20, 3.31, 3.6, 3.30, 3.28, 3.2	10
5	Kashyapi	1999	73° 36' 24" 20° 04' 08"	47.77	52.69	580.55	MH09HH1479	30/05/2019 26/11/2019	3.24, 3.20	02
6	Gautami Godavari	2008	73° 34' 00" 19° 59' 00"	59.375	53.22	1808	MH09HH1778	30/05/2019 26/11/2019	3.25	01
7	Bhavali	2009	73° 35' 00" 19° 33' 00"	31.28	44.75	896	MH09HH1789	30/05/2019 05/12/2019	3.1, 3.26, 3.4, 3.25, 3.13, 3.36, 3.31, 3.28, 3.29, 3.34, 3.6, 3.3, Cat-3	13
8	Darana	1912	73° 45' 00" 19° 48' 00"	28.00	226.87	3336.00	MH09MH0037	30/05/2019 05/12/2019	3.1, 3.26, 3.25, 3.16, 3.31, 3.21, 3.24, 3.20, 3.29, 3.6, 3.30	11
9	Karwa	1993	73° 48' 00" 19° 40' 00"	31.84	59.59	2821.00	MH09MH1444	30/05/2019 05/12/2019	3.26, 3.9, 3.7, 3.25, 3.16, 3.28, 3.31, 3.21, 3.22, 3.29, 3.30, 3.24	12

Sr. No	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design spillway Capacit (m3/ Sec)	Sr No.of Large Dam in National Register	Date of Inspection	Deficiencies Noticed	Total Deficiencie s
1	2	3	4	5	6	7	8	9	10	11
(b)EXECUTIVE ENGINEER, PALKHED IRRIGATION DIVISION, NASHIK										
10	Ozarkhed	1982	73° 52' 00" 20° 17' 00"	35.30	67.96	2400	MH09HH0943	10/05/2019 02/01/2020	3.5, 3.9, 3.25, 3.23, 3.33, 3.24	06
11	Punegaon	1998	73° 50' 30" 20° 21' 30"	25.14	20.39	1170	MH09MH1486	10/05/2019 02/01/2020	3.2, 3.26, 3.5, 3.7, 3.25, 3.28, 3.31, 3.11, 3.16, 3.24	10
12	Waghad	1979	73° 44' 00" 20° 14' 00"	46.92	76.48	1350	MH09HH0797	10/05/2019 02/01/2020	3.5, 3.25, 3.21, 3.23, 3.1, 3.24	06
13	Palkhed	1976	73° 54' 00" 20° 10' 00"	19.55	23.01	4592	MH09HH0532	10/05/2019 02/01/2020	3.5, 3.7, 3.16, 3.36, 3.20, 3.28, 3.31, 3.11, 3.21, 3.19, 3.24	11
14	Karanjawan	1974	73° 46' 00" 20° 18' 00"	39.30	161.43	2724.00	MH09HH454	10/05/2019 02/01/2020	3.1,3.26,3.9,3.7,3.36,3.18,3. 31,3.28,3.21,3.22,3.25,3.24	12
(c)EXECUTIVE ENGINEER, AHMEDNAGAR IRRIGATION DIVISION, AHMEDNAGAR										
15	Adhala	1976	74° 02' 03" 19° 38' 28"	40.0	30.0	1582	MH09HH0594	13/05/2019 27/12/2019	3.9, 3.13, 3.2, 3.19, 3.25, 3.21, 3.27, 3.30, 3.32	09
16	Kothale	2007	73° 49' 00" 19° 24' 00"	35.59	5.17	490	MH09MH1938	13/05/2019 28/12/2019	3.9, 3.13, 3.5, 3.16, 3.20, 3.31, 3.30, 3.6	08
17	Titvi	2007	73° 49' 00" 19° 34' 00"	31.80	8.59	577.49	MH09MH1941	13/05/2019 27/12/2019	3.9, 3.18, 3.20, 3.30, 3.31	05
18	Shirpunje	2008	73° 49' 15" 19° 32' 00"	37.85	4.4	269	MH09MH1940	13/05/2019 28/12/2019	3.7, 3.9, 3.10, 3.13, 3.23, 3.20, 3.31, 3.29, 3.6, 3.30	10
19	Ghoti Shilwandi	2007	73° 53' 00" 19° 27' 00"	32.20	4.53	312	MH09MH1937	13/05/2019 28/12/2019 06/03/2020	3.13, 3.31, 3.30, 3.6	04
20	Padoshi	2010	73° 52' 00" 19° 40' 00"	30.91	4.134	721.23	MH09MH1939	13/05/2019 27/12/2019	3.9, 3.13, 3.2, 3.6, 3.30	05
21	Kalu(Bruhat)	2010	74°28'45" 19°12' 15"	36.085	8.18	1718	Proposed to be included in NRLD	----- 28/12/2019	3.7	01
22	Bhandardara	1926	73° 45' 30" 19° 32' 43"	82.35	312.60	1500.00	MH09HH0047	09/06/2019 27/12/2019	3.24, 3.09, 3.7, 3.10, 3.5, 3.11, 3.20, 3.28, 3.21, 3.27, 3.29, 3.31	12

Sr. No	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design spillway Capacit (m3/ Sec)	Sr No.of Large Dam in National Register	Date of Inspection	Deficiencies Noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11
23	Balthan	2008	73° 49' 00" 19° 28' 00"	28.52	5.72	318.22	MH09HH0047	13/05/2019 28/12/2019	3.9, 3.23, 3.20, 3.31, 3.6, 3.30	06
(d)EXECUTIVE ENGINEER, MALEGAON IRRIGATION DIVISION, MALEGAON										
24	Kelzar	1980	73° 58' 00" 20° 39' 00"	32.50	17.01	832	MH09HH0896	19/07/2019 01/01/2020	3 3.9, 3.7, 3.25, 3.13, 3.16, 3.21, 3.23, 3.22, 3.31, 3.2, 3.28	11
25	Bhegu	2000	73° 46' 00" 20° 36' 00"	34.66	2.77	2751	MH09HH1540	19/07/2019 01/01/2020	3.2, 3.9, 3.25, 3.13, 3.5, 3.16, 3.29, 3.28, 3.30	09
26	Haranbari	1980	74° 02' 00" 20° 42' 00 "	34.00	34.78	1312	MH09HH0142	19/07/2019 01/01/2020	3.26, 3.5, 3.9, 3.7, 3.25, 3.13, 3.16, 3.21, 3.22, 3.31, 3.30, 3.24	12
27	Chankapur	1911	73° 56' 00" 20° 29' 30"	39.01	79.96	2236.00	MH09HH0028	19/07/2019 01/01/2020	3.9, 3.25, 3.36, 3.16, 3.31, 3.30, 3.24	07
(e)EXECUTIVE ENGINEER, MULA IRRIGATION DIVISION, AHMEDNAGAR										
28	Mula	1971	74° 34' 30" 19° 21' 30"	46.67	736.32	5946.53	MH09HH0316	15/06/2019 20/01/2020	3.7, 3.1, 3.5, 3.11, 3.36, 3.20, 3.28, 3.21, 3.19	09
(2)SUPERINTENDING ENGINEER & ADMINISTRATOR, CADA, AHMEDNAGAR										
(a)EXECUTIVE ENGINEER, UPPER PRAVARA DAM DIVISION, SANGAMNER										
29	Nilwande	2010	73° 54' 15" 19° 32' 45"	74.50	236.00	3700	MH09MH1942	Not given 07/12/2019	3.24, 3.33, 3.13	03
30	Bham	--	---	--	--	--	--	--	3.24, 3.20, 3.13, 3.2, 3.30	05
[B] CHIEF ENGINEER TIDC, JALGAON										
(1)SUPERINTENDING ENGINEER DHULE IRRIGATION PROJECT CIRCLE, DHULE										
(a)EXECUTIVE ENGINEER, NANDURBAR MEDIUM PROJECT DIVISION NO.2, NANDURBAR										
31	Susari	2007	74 °30'00" 32° 21' 00"	24.72	9.64	1343.00	MH09MH1950	21/05/2019 29/12/2019	3.1, 3.2, 3.5, 3.7, 3.09, 3.20, 3.28, 3.27, 3.18, 3.30, 3.31, 3.21	12
32	Dara	2008	74 °26'00" 21° 45' 00"	43.16	14.76	1145.07	MH09HH1797	21/05/2019 19/12/2019	3.18, 3.34, 3.20, 3.27	04

Sr. No	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design spillway Capacit (m3/ Sec)	Sr No.of Large Dam in National Register	Date of Inspection	Deficiencies Noticed	Total Deficiencie s
1	2	3	4	5	6	7	8	9	10	11
33	Shivan Vircheck	2007	75 °11'50" 21 °19'00"	31.30	24.19	1637	MH09MH1748	03/12/2018 07/12/2019	3.1,3.2,3.5,3.7,3.9,3.13, 3.20,3.28,3.31	09
34	Koradi(nalla)	2011	74 °21'30" 21° 14' 30"	31.50	13.45	1063.07	MH 09 MH1094	23/04/2019 07/12/2019 14/11/2019	3.24, 3.5, 3.20, 3.2, 3.19, 3.30, 3.27, 3.28, 3.31, 3.1, 3.9	11
(b)EXECUTIVE ENGINEER, GIRNA RIVER VALLEY PROJECT DIVISION,NASHIK										
35	Manikpunj	2000	74 °44' 00" 20° 05'00"	32.00	14.02	2032	MH09HH1786	29/05/2019 10/12/2019	3.16, 3.19, 3.20, 3.27, 3.6	05
36	Punand	2011	73 °52' 30" 20° 37'30"	42.225	39.75	1985	MH09MH1820	30/05/2019 29/11/2019	3.1, 3.6, 3.16, 3.20, 3.25, 3.28, 3.30, 3.31	08
(c)EXECUTIVE ENGINEER, DHULE MEDIUM PROJECT DIVISION,DHULE										
37	Wadi Shewadi	2009	74 °34'50" 21° 9'15"	33.65	36.93	3782	MH09HH1815	28/05/2019 09/12/2019	3.24, 3.1, 3.7, 3.16, 3.31, 3.20	06
38	Akkalpada	U/C	74 °27'22" 26° 56' 28"	36.565	109.31	9873	MH09HH1795	27/05/2019 30/12/2019	3.1, 3.2, 3.5, 3.13, 3.18, 3.11, 3.30	07
39	Sulwade Barrage	2008	N.A N.A	45.50	65.06	12000	MH09MH1814	23/05/2019 09/12/2019 18/03/2020	3.18, 3.19, 3.27	03
40	Nagan	2007	73 °50'15" 20° 12' 19"	31.07	26.48	1550	MH09MH1791	----- 07/12/2019	3.2, 3.9, 3.20, 3.33, 3.31, 3.18	06
(2)SUPERINTENDING ENGINEER & ADMINISRTATOR,CADA,JALGAON										
(a)EXECUTIVE ENGINEER, DHULE IRRIGATION DIVISION ,DHULE										
41	Amravati	2005	74 °30'00" 21° 17' 00"	17.19	27.78	419.57	MH 09 MH1644	13/05/2019 29/11/2019 14/11/2019	3.1, 3.5, 3.6, 3.9, 3.13, 3.18, 3.20, 3.21, 3.24, 3.27, 3.28	11
42	Sarangkheda Barrage	2008	N.A N.A	13.34	92.20	50529	MH09HH1770	18/05/2019 29/11/2019 18/03/2020	3.6, 3.18, 3.19, 3.20, 3.24, 3.29	06
43	Prakasha Barrage	2008	74 °48'00" 20° 29' 00"	29.13	63.64	50517	MH09HH1810	18/05/2019 29/11/2019	3.1, 3.6, 3.18, 3.19, 3.20, 3.24, 3.29	07

Sr. No	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design spillway Capacit (m3/ Sec)	Sr No.of Large Dam in National Register	Date of Inspection	Deficiencies Noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11
44	Burai	1984	74° 21' 40" 21° 09' 36"	30.93	21.33	2149	MH09HH1009	13/05/2019 29/11/2019	3.1, 3.5, 3.9, 3.10, 3.13, 3.16, 3.20, 3.24, 3.29, 3.21, 3.34	11
45	Karwand	1970	74° 57' 00" 21° 22' 36"	39.30	33.84	2461	MH09HH0226	18/05/2019 29/11/2019	3.6, 3.13, 3.19, 3.24, 3.27, 3.29	06
46	Panzara	1973	74° 05' 30" 20° 55' 01"	33.10	43.50	1768.00	MH09MH0385	13/05/2019 29/11/2019	3.1, 3.9, 3.13, 3.18, 3.24, 3.28	06
47	Ranipur	1999	NA	40.00	43.90	Ungated	MH09HH1481	18/05/2019 29/11/2019	3.5, 3.7, 3.9, 3.10, 3.13, 3.19, 3.24	07
48	Aner	1979	NA	47.00	31.62	4318	MH09HH0741	18/05/2019 29/11/2019	3.5, 3.13, 3.18, 3.19, 3.27	05
49	Sonwad	1999	NA	21.40	17.32	1428	MH09MH1487	18/05/2019 03/12/2019	3.1, 3.5, 3.11, 3.18, 3.13, 3.19, 3.20, 3.22, 3.24, 3.27, 3.33	11
50	Jamkhedi	2001	74° 11' 00" 21° 00' 00"	37.07	13.28	1663.44	MH09MH1593	13/05/2019 30/11/2019	3.9, 3.13, 3.20, 3.24, 3.28	05
(b)EXECUTIVE ENGINEER, JALGAON IRRIGATION DIVISION, JALGAON										
51	Suki	1976	75° 54' 00" 21° 18' 00"	42.00	50.57	2336	MH09HH0656	09/05/2019 05/12/2019 19/03/2020	3.3, 3.22, 3.18, 3.20, 3.6, 3.24	06
52	Bhokar (Mangrul)	1997	74° 48' 00" 20° 29' 00"	33.07	8.98	1270	MH09HH1442	10/05/2019 05/12/2019	3.3, 3.13, 3.22, 3.21, 3.6, 3.24	06
53	Bahula	1997	75° 23' 30" 20° 42' 15"	16.64	20.032	3802.00	MH09MH1445	25/04/2019 31/12/2019	3.1, 3.5, 3.6, 3.13, 3.18, 3.26, 3.31, 3.24, 3.30	09
54	Mor	2003	75° 47' 30" 21° 14' 45"	47.45	9.505	1700	MH09HH1619	10/05/2019 05/12/2019	3.3, 3.7, 3.9, 3.7, 3.33, 3.6, 3.24	07
55	Hatnur	1982	75° 57' 00" 21° 41' 00"	25.50	388	26415	MH09MH0948	18/05/2019 05/12/2019 19/03/2020	3.1, 3.7, 3.9, 3.11, 3.36, 3.18, 3.31, 3.28, 3.6, 3.30	10
(c)EXECUTIVE ENGINEER, GIRNA IRRIGATION DIVISION, JALGAON										
56	Girna	1969	74° 48' 00" 20° 29' 00"	54.50	608.98	8433.00	MH09MH0196	03/05/2019 03/12/2019	3.2, 3.16, 3.19, 3.6, 3.28	05

Sr. No	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design spillway Capacit (m3/ Sec)	Sr No.of Large Dam in National Register	Date of Inspection	Deficiencies Noticed	Total Deficiencie s
1	2	3	4	5	6	7	8	9	10	11
57	Manyad	1973	74° 48' 00" 20° 29' 00"	45.00	53.98	3755	MH09HH0387	03/05/2019 03/12/2019	3.2, 3.6, 3.16, 3.19, 3.24	05
58	Bori	1976	75° 03' 00" 20° 41' 00"	22.80	40.31	267.10	MH09MH0659	03/05/2019 28/12/2019	3.2, 3.3, 3.5, 3.6, 3.7, 3.13 3.16, 3.18, 3.24, 3.28	10
(3)SUPERINTENDING ENGINEER,JALGAON IRRIGATION PROJECT CIRCLE,JALGAON										
(a)EXECUTIVE ENGINEER, MINOR IRRIGATION DIVISION,JALGAON										
59	Wagzira	1999	75° 36' 00" 21° 16' 00"	34.85	2.002	381.00	MH09HH1659	15/05/2019 06/12/2019	3.1, 3.2, 3.6, 3.13, 3.24, 3.28, 3.22, 3.29, 3.16	09
60	Nimbadevi	1997	75° 37' 00" 21° 17' 00"	32.39	2.43	500.90	MH09HH1660	15/05/2019 06/12/2019	3.2, 3.3, 3.6, 3.13, 3.24, 3.28	06
61	Borkheda	1997	75° 15' 00" 21° 15' 00"	30.64	1.94	239.96	MH09HH1658	15/05/2019 06/12/2019	3.6, 3.13, 3.12, 3.24, 3.28	05
62	Haripura	2010	76° 42' 00" 21° 17' 00"	41.27	5.998	833.00	MH09MH1956	15/05/2019 28/11/2019	3.1, 3.2, 3.6, 3.9, 3.13, 3.22, 3.24, 3.28, 3.30	09
(b)EXECUTIVE ENGINEER, JALGAON MEDIUM PROJECT DIVISION No.1,JALGAON										
63	Anjani	2007	75° 19' 00" 20° 54' 00"	23.20	36.78	1991.81	MH09MH1954	21/05/2019 15/11/2019	3.1, 3.3, 3.6, 3.9, 3.10, 3.11, 3.13, 3.18, 3.20, 3.23, 3.24, 3.29, 3.31, 3.34	14
64	Gul	2009	75° 22' 40" 21° 19' 00"	31.33	23.25	1823.00	MH09MH1955	09/05/2019 15/11/2019	3.5,3.6,3.9,3.11,3.12,3.13,3.20,3.24,3.27,3.33,3.34,3.36	12
(c)EXECUTIVE ENGINEER, WAGHUR DAM DIVISION DIVISION,JALGAON										
65	Waghur	2008	75° 43' 0" 20° 54' 0"	39.50	325.00	16644.0	MH09LH1750	14/05/2019 14/11/2019	3.6, 3.13, 3.9, 3.22, 3.21, 3.12, 3.24, 3.28, 3.20	09
(4)SUPERINTENDING ENGINEER,KUKADI IRRIGATION CIRCLE,PUNE										
(a)EXECUTIVE ENGINEER, KUKADI IRRIGATION DIVISION NO.2,SHRIGONDA										
66	Sina	1995	74° 57' 0" 18° 49' 00"	39.90	67.95	4971.00	MH09HH1142	23/05/2019 -----	3.24, 3.9,3.23,3.31,3.2,3.30	06

Sr. No	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design spillway Capacit (m3/ Sec)	Sr No.of Large Dam in National Register	Date of Inspection	Deficiencies Noticed	Total Deficiencie s
1	2	3	4	5	6	7	8	9	10	11
(5)SUPERINTENDING ENGINEER,THANE IRRIGATION CIRCLE,THANE (a)EXECUTIVE ENGINEER, MINOR IRRIGATION DIVISION,NASHIK										
67	Shrimant	2006	73 ° 24' 0" 20 ° 15'55"	39.31	11.63	352.1	MH09LH2037	04/05/2019 12/12/2019	3.9, 3.13, 3.5, 3.2, 3.7, 3.1, 3.31, 3.29, 3.30	09

Table 2.9

Dam wise Health status report of Class-II dams with category-1 deficiency

Sr. No	Name of Dam	Year of Completion	Location	Height in m	Gross Capacity Mm ³	Design Spillway Capacity m ³ /sec	Sr. No. in NRLD Register 2009	Date of Inspection	Inspecting Officer
1	2	3	4	5	6	7	8	9	10
<p>----- No Such Dams under this category is reported -----</p>									

Table 2.10

Dam wise Health status report of Class-II dams with category-2 deficiency

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
[A] CHIEF ENGINEER NMR , NASHIK (1) SUPERINTENDING ENGINEER & ADMINISTRATOR C.A.D.A. NASHIK (a) EXECUTIVE ENGINEER, NASHIK IRRIGATION DIVISION, NASHIK						
1	Name: TRINGALWADI Year of Completion: 1980 Location: Longitude: 73° 35'00 " Latitude: 20° 06' 00" Height: 15.77 m Gross capacity: 3.11 Mm³ Spillway capacity: 206.68cumecs Sr.No.in National Register of Large Dams: -MH09MH0686	04/06/2019 23/12/2019	Shri. R.S. Shinde E.E. N.I.D. Nashik & Shri. S.D. Shinde E.E. N.I.D. Nashik	Outlet WW & TC	Outlet well is in poor condition.Heavy cracks in masonry.(A6) WW bar is not in good condition.(B7)	Causes of leakage should be investigated & treated accordingly. Damaged portion of w.w. bar shall be repaired.
2	Name: TALOSHI Year of Completion: 1992 Location: Longitude: 73° 37'00 " Latitude: 19° 40' 00" Height: 20.78 m Gross capacity: 1.398 Mm³ Spillway capacity: 138.00cumecs Sr.No.in National Register of Large Dams: -MH09MH1264	04/06/2019 23/12/2019	Shri. R.S. Shinde E.E. N.I.D. Nashik & Shri. S.D. Shinde E.E. N.I.D. Nashik	Outlet	Outlet well is in poor condition.Heavy cracks in masonry.(A6)	Causes of leakage should be investigated & treated accordingly.

[illegible]

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
(b) EXECUTIVE ENGINEER, MALEGAON IRRIGATION DIVISION, MALEGAON						
4	Name :- JAMLEVANI Year of Completion: 1999 Location : Longitude: 73° 49' 47 " Latitude: 20° 26' 40 " Height: 27.63 m Gross capacity: 1.66 Mm³/sec Spillway capacity:- 340.37cumecs Sr.No.in National Register of Large Dams : MH09MH1507	01/06/2019 06/02/2020	Shri.M.S. Chaudhari E.E.M.I.D. Malegaon	Earth Dam. Outlet Waste weir bar & tail channel	Crest profile &slope of dam is not as per design. (B1) Abnormal leakage through rock toe. (B3) Leakage from conduit concrete. (A4) Junction between spillway bar & embankment is not intact. Leakage observed. (B7) Scouring is noticed at D/S side in tail channel (A7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. . Exact causes of leakages should be investigated & treated accordingly. All leakages need to be attended in time Leakage should be monitored & if it is large then pipe joints should be repaired & all leakages needs to be attended in time. Exact causes of leakages should be investigated & treated accordingly. Exact causes of leakages should be investigated & treated accordingly. Scouring on d/s to be repaired by concrete filling suitably

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
5	Name: SHINDE Year of Completion: 1984 Location: Longitude: : 74°18'00 " Latitude: 20° 21' 40" Height: 21.26 m Gross capacity: 1.690 Mm3 Spillway capacity: 80.00 cumecs Sr.No.in National Register of Large Dams: MH09MH0951	01/06/2019 04/02/2020	Shri.M.S. Chaudhari E.E.M.I.D. Malegaon	Outlet Waste weir bar & tail channel.	Leakage through conduit is observed.about 100 LPM. (A4) Outlet well is not in good condition. (A6) Leakage through foundation of WW bar.(2 to 3 Cusecs). (B7) Scouring on D/S of ww bar. (A7)	Leakage should be monitored & if it is large then pipe joints should be repaired & all leakages needs to be attended in time. Exact causes of leakages should be investigated & treated accordingly. Necessary repairs to be carried out. Exact causes of leakages should be investigated & treated accordingly. Scouring on d/s to be repaired by concrete filling suitably

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
6	Name: RANKHEDA Year of Completion: 1979 Location: Longitude: 74° 47' 00 Latitude: 20° 20' 00" Height: 16.13 m Gross capacity: 1.377 Mm³ Spillway capacity: 397.90cumecs Sr.No.in National Register of Large Dams: MH09MH0780	11/07/2019 29/01/2020	Shri.M.S. Chaudhari E.E.M.I.D Malegaon	EE Outlet .	Section is not as per design in respect of top width.D/S slope are not as per design. (B3) Outer face of UCR masonry of outlet well has fallen down.Vertical cracks are noticed.Reconstruction is necessary. (A6)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Necessary repairs should be carried out. .
7	Name: BHADANE Year of Completion: 1984 Location: Longitude: 73° 30' 00 Latitude: 20° 34' 00" Height: 16.20 m Gross capacity: 1.520 Mm³ Spillway capacity: 101.0cumecs Sr.No.in National Register of Large Dams: MH09MH0957	01/06/2019 06/02/2020	Shri.M.S. Chaudhari E.E.M.I.D Malegaon	EE Outlet W.W.& T.C.	Section is not as per design in respect of top width.D/S and U/S slope are not as per design. (B3) Leakage through gate and HR well. (B5 & A6) Leakage through well masonry. (A6) Flank wall leakages occurred when dam is @ FSL. (A15)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Causes of leakages should be investigated & treated accordingly. Exact causes of leakages should be investigated & treated accordingly. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly.

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
8	Name: GHODAMBE Year of Completion: 1990 Location: Longitude: :73°45'00 " Latitude: 20° 30' 00" Height: 18.56 m Gross capacity: 2.20 Mm3 Spillway capacity: 431.10 cumecs Sr.No.in National Register of Large Dams: MH09MH1239	01/06/2019 04/02/2020	Shri.M.S. Chaudhari E.E.M.I.D. Malegaon	Earth Dam Outlet W.W. & T.C.	Dam section is not as per design. (B1) Leakage through masonry head wall of H.R. & r/s edge of hard rock. (About One cusecs) (A6) Leakage through d/s face of masonry of well approx. 100 Ltrs / Min. (A6) Leakages near and around conduit pipe. (A4) Scouring on D/S of WW bar. (A7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly Scouring on d/s to be repaired by concrete filling suitably
9	Name :- TALWADE BHAMER Year of Completion: 1979 Location : Longitude: 74° 18'00 " Latitude: 20° 48' 00 " Height: 15.45 m Gross capacity: 2.560 Mm³/sec Spillway capacity:- 265.33 cumecs Sr.No.in National Register of Large Dams :- MH09MH0776	08/06/2019 17/01/2020	Shri.M.S. Chaudhari E.E.M.I.D. Malegaon	Earth Dam Outlet	Dam section is not as per design. Top width is less than design (B1) Outlet gate is not in working condition. (B7) Well and approach channel is completely silted. (A6)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly Necessary repairs should be carried out. Necessary repairs should be carried out.

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
(c)EXECUTIVE ENGINEER, A'NAGAR IRRIGATION DIVISION, AHMADNAGAR						
10	Name:- AMBIT Year of Completion:- 2003 Location Longitude: 73° 47' 30 " Latitude: 19° 36' 30 " Height: 24.00m Gross capacity: 5.86Mm³ Spillway capacity: 952.0 cumecs Sr.No.in National Register of Large Dams:- MH09MH1943	07/05/2019 28/12/2019	Shri. K.J. Deshmukh E.E.A.I.D. A'Nagar & Shri. G.B.Nannor E.E.A.I.D. A'Nagar	W.W.&T.C.	22 pannel of size 7x 5 m are washed away with anchor bar & exposed rock are open in stilling basin. (A14) Flow condition of EDA have tendency to draw material. (A14)	The necessary repair shall be carried out in consultation with the S.E. (Dams) C.D.O.Nashik Necessary repairs should be carried out in consultation with S.E. (Dams) C.D.O.Nashik
[B] CHIEF ENGINEER, KONKAN REGION , MUMBAI						
(1)SUPERINTENDING ENGINEER , THANE IRRIGATION CIRLE , KALAWA ,THANE						
(a)EXECUTIVE ENGINEER, MINOR IRRIGATION DIVISION, NASHIK						
11	Name : Aad Year of Completion: 1997 Location: Longitude: 73 ° 36' 00" Latitude: 20°10' 00 " Height: 23.80 m Gross capacity: 1.653 Mm³ Spillway capacity: 70.07 cumecs Sr.No.in National Register of Large Dams :- MH09MH1419	11/05/2019 11/01/2020 21/09/2019	Shri.G.M. Sanghani, EE, MID, Nashik & Shri.V.Y. Sonwane, EE, MID, Nashik Shri.P.H. Mohite EE, DSD.3, DSO, Nashik	EE	Local depression observed at some places.Section of dam is get disturbed.(B3) Top width,slopes are not as per design at some places.(B1) The leakage is observed near and around the earthwork and head wall in d/s side .(A4) Leakge is noticed on d/s side of dam near outlet pipe.It is at the higher level than conduit pipe.Some turbid water was noticed.Conduit pipe is also flooded. Heavy raincuts are noticed on d/s embankment slope.	Necessary repairs should be carried out Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Causes of leakages should be investigated & treated accordingly. Causes of leakages should be investigated & treated accordingly. It should be filled with suitable material.

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
12	Name : BUBALI Year of Completion: 1984 Location: Longitude: 73 ° 39'00 " Latitude: 20° 21' 00 " Height: 20.00m Gross capacity: 1.634 Mm³ Spillway capacity: 322.96 cumecs Sr.No.in National Register of Large Dams :- MH09MH0976	04/05/2019 04/05/2019	Shri.G.M. Sanghani, EE, MID, Nashik & Shri.V.Y. Sonwane, EE, MID, Nashik	Earth Dam Outlet W.W.&T.C.	Section is not as per design.U/s & d/s slope is concave in some portion. (B1 & B3) Repairs to whole gate system is required. (B5) Retrogression is noticed in tail channel At D/S of tail channel near check wall deep holes occurred due to scouring.Due to heavy rainfall on 10/07/2016 to 12/07/2016 & 02/08/2016 to 03/08/2016 filling of boulders and mudrooms washed away. (A7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. The repair shall be carried out with the help of Mechanical Organization If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Extent of retrogression should be ascertained and monitors every year by mapping.If the problem of retrogression is moving upstream and is serious for geological investigation the problem shall be referred to respective organization for undertaking investigations and studies for evolving suitable solution to the problem.
13	Name : INAMBARI Year of Completion: 1976 Location: Longitude: 73 ° 35'00 " Latitude: 20° 16' 00 " Height: 22.57m Gross capacity: 2.47 Mm³ Spillway capacity: 215.20 cumecs Sr.No.in National Register of Large Dams :- MH09MH0563	11/05/2019 11/01/2020 08/08/2019	Shri.G.M. Sanghani, EE, MID, Nashik & Shri.V.Y. Sonwane, EE, MID, Nashik Shri.P.H. Mohite EE, DSD.3, DSO, Nashik		Due to heavy rainfall during monsoon on the d/s slope of embankment portion having size approximately 20 x20 m and about 2 to 2.5 m deep is sleeped away with stone pitching.Rain water flowing under pitching may have eroded embankment. (B3) Heavy undulation on dam top is observed. (B3) Heavy raincuts are noticed in between chainage 50 m to 150 m. (B4) Heavy leakage through outlet well. Construction of flank wall on both ends of weir is essential. (A16)	Necessary repairs should be carried out Necessary repairs should be carried out Necessary repairs should be carried out Causes of leakages should be investigated & treated accordingly Necessary repairs should be carried out

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
14	Name : JATEGAON Year of Completion: 1986 Location: Longitude: 73 ° 30' 00 " Latitude: 20° 00' 00 " Height: 19.54 m Gross capacity: 1.77 Mm³ Spillway capacity: 215.20 cumecs Sr.No.in National Register of Large Dams :- MH09MH1030	17/05/2019 12/01/2020	Shri.G.M. Sanghani, EE, MID, Nashik & Shri.V.Y. Sonwane, EE, MID, Nashik	Outlet WW bar & Tail channel	UCR masonry work of well is damaged. (A6) Leakage from junction of flank wall and ww bar. (A4) Retrogression is noticed in tail channel. (A7)	Necessary repairs should be carried out All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Extent of retrogression should be ascertained and monitors every year by mapping.If the problem of retrogression is moving upstream and is serious for geological investigation the problem shall be referred to respective organization for undertaking investigations and studies for evolving suitable solution to the problem.
[C] CHIEF ENGINEER ,TIDC ,JALGAON						
(1)SUPERINTENDING ENGINEER&ADMINISTRATOR, C.A.D.A., JALGAON						
(a)EXECUTIVE ENGINEER , DHULE IRRIGATION DIVISION,DHULE						
15	Name: MUKTI Year of Completion: 1873 Location : Longitude: 74° 53' 00 " Latitude: 21° 44' 00 " Height: 21.20m Gross capacity: 9.90 Mm³ Spillway capacity: 548.0 cumecs Sr.No.in National Register of Large Dams:- MH09MH0009	30/05/2019 06/12/2019 17/01/2020	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R. Darade E.E.D.I.D. Dhule Shri.P.H. Mohite EE, DSD.3, DSO, Nashik	Earth Dam WW & TC	Dam section is under section in gorge. Leakage is noticed on d/s of slope. (B1) Heavy undulations and heavy raincuts are observed.(B3) Standing pool of water on d/s of dam. (A2) Both emergency gates are not in working condition. (B5) Guide bund need resectioning on d/s slope.	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Necessary repairs should be carried out. Leakages appearing on d/s shall immediately be treated by providing inverted filters at exit points & the path of leakage from u/s shall be traced out & treated properly i.e. filling with impervious soil blanket or filling on u/s side The d/s area at least up to above 200 m. from toe, shall be free from stagnation of water The area should be well drained. The repair shall be carried out with the help of Mechanical Organization Necessary repairs be carried out .

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
16	Name: Mahupada Year of Completion: 1989 Location : Longitude: 74° 25' 45" Latitude: 21° 00' 05" Height: 16.47m Gross capacity: 2.558 Mm³ Spillway capacity: 126.95 cumecs Sr.No.in National Register of Large Dams:- MH09MH1948	12/05/2019 24/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R. Darade E.E.D.I.D. Dhule	Earth dam Outlet WW.&TC	D/S Slope are under section.. (B3) Leakage from outlet gate about 1 to 2 cusecs. (B12) There is leakage from conduit concrete.. (A4) Scouring on d/s side of bar.. (A7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Causes of leakages should be investigated & treated accordingly. Causes of leakages should be investigated & treated accordingly. Scouring on d/s to be repaired by concrete filling suitably.
17	Name:- KHAPERKHEDA Year of Completion: 1976 Location : Longitude: 74° 40' 12" Latitude: 20° 30' 00" Height: 18.30m Gross capacity: 2.70 Mm³ Spillway capacity: 424.0 cumecs Sr.No.in National Register of Large Dams: MH09MH0581	20/05/2019 23/12/2019 17/03/2020	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R. Darade E.E.D.I.D. Dhule Shri.P.H. Mohite EE, DSD.3, DSO, Nashik	Earth Dam Outlet W.W. Bar	Section is not as per design Slope indicates concavity.. (B1) Leakage or oozing is noticed at d/s slope.. (A1) Boils and wet patches noticed at d/s of embankment.Leakage through dyke.. (A1) Leakage through conduit concrete & pipe joints (A4) Some portion of guide bund is washed out since 2006.. (B7) Scouring is noticed at D/S of WW bar.. (A7) Leakage through conduit concrete & pipe joints (A4)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Causes of leakages should be investigated & treated accordingly Causes of leakages should be investigated & treated accordingly Leakage should be monitored & if it is large then pipe joints should be repaired & all leakages needs to be attended in time. Exact causes of leakages should be investigated & treated accordingly. Necessary repairs should be carried out immediately Scouring on d/s to be repaired by concrete filling suitably

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
18	Name:- WAKWAD Year of Completion: 1977 Location : Longitude: 74° 46' 00" Latitude: 21° 07' 00" Height: 28. 64m Gross capacity: 2.910 Mm³ Spillway capacity: 418.0 cumecs Sr.No.in National Register of Large Dams:- MH09MH0633	26/05/2019 27/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & ShriV.R. Darade E.E.D.I.D. Dhule	Earth Dam Outlet W.W & T C	Top width,U/S & D/S slope are not as per design. (B1) Leakage through gate from slot about 10-15 LPS. (A4) Left side wall between WW bar & embankment is collapsed. (B7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly The leakage may be due to damages or misalignments of stem rods, damages to rubber seal, improper operation of hoist etc. The repair shall be carried out with the help of Mechanical Organization to minimize leakages Damaged portion of w. w. bar shall be repaired.
19	Name:- NANDRE Year of Completion: 1979 Location : Longitude: 74° 25' 45" Latitude: 21° 00' 05" Height: 17.37m Gross capacity: 2.37 Mm³ Spillway capacity: 382.0 cumecs Sr.No.in National Register of Large Dams:- MH09MH0778	29/05/2019 25/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R. Darade E.E.D.I.D. Dhule	Earth Dam Outlet	Leakage through COT in gorge portion due to partial COT. (A1) Boils,wet patches on d/s of dam. (A1) Top width is to be rectified. (B4) Bushy jungle on d/ slope. Outlet is not working condition since 13 years. (B5) Leakage through underground. Hence water is stored for one month only. (A1)	Leakages appearing on d/s shall immediately be treated by providing inverted filters at exit points & the path of leakage from u/s shall be traced out & treated properly. Boils shall be treated by providing ring bunds around boils to the appropriate ht. to decipate the exit gradient & for wet patches proper drainage arrangement should be provided so that d/s 200 m area will remain dry. Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly.Vegetation to be removed. The repair shall be carried out with the help of Mechanical Organization as the problem is from 13 years. Inspection should be carriedout & the causes of leakages weather it is through body of dam or through foundation should be found out remedial measures should be carriedout with consultation with CDO.

[illegible]

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
22	Name: KHANDLAY Year of Completion: 1974 Location: Longitude: 74° 25' 45 " Latitude: 21° 00' 05 " Height: 21.90 m Gross capacity: 1.593 Mm³ Spillway capacity: 413.00 cumecs Sr.No.in National Register of Large Dams: MH09MH0430	29/05/2019 25/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R. Darade E.E.D.I.D. Dhule	Earth Dam Outlet	Section is not as per design. (B1) Concavity on u/s & d/s slope. Top width is less than 3.0 m. (B1) Standing pool on d/s. (A2) Heavy crack from top to 3m. downward to well. Leakage from well. (A6) Leakage through gate. (B12) Two numbers of stem rod are bent. (B5)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly The d/s area at least up to above 200m. from toe, shall be free from stagnation of water The area should be well drained so as to avoid any stagnant pools of water Damaged portion of well shall be monitored & repaired properly. Causes of leakages should be investigated & treated accordingly. Necessary repairs should be carried out.
23	Name: KHOKASA Year of Completion: 1995 Location: Longitude: 74° 40' 12 " Latitude: 21° 34' 00 " Height: 24.72 m Gross capacity: 1.523 Mm³ Spillway capacity: 135.0 cumecs Sr.No.in National Register of Large Dams:- MH09MH1368	04/06/2019 21/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R. Darade E.E.D.I.D. Dhule	Earth Dam Outlet	Embankment is undersection. Some concavity in d/s slope. D/S slope is not as per design.. (B1 & B3) Standing pool on d/s of dam. Clean water is flowing d/s of dam at chainage 160 m, 240 m, 330m (0.25 Cusecs @ FSL) (A2) Leakage through gate (2 to 3 cusecs) (A4) Leakage through masonry of well & pipe joint. (A4) Leakage through conduit (2 To 3 Cusecs). Every year water level is reducing by 5 cm even the gate is in closed position. (A4)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. The d/s area at least up to above 200m. from toe, shall be free from stagnation of water The area should be well drained so as to avoid any stagnant pools of water The leakage may be due to damages or misalignments of stem rods, damages to rubber seal, improper operation of hoist etc. The repair shall be carried out with the help of Mechanical Organization to minimize leakages Location & amount of leakages shall be monitored and if large then necessary treatment on u/s & d/s of the affected area may be carried out to minimize leakage All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly.

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
24	Name: SHELBARI Year of Completion: 1982 Location: Longitude: 74° 08' 30 " Latitude: 20° 50' 00 " Height: 20.70 m Gross capacity: 1.589 Mm³ Spillway capacity: 403.0 cumecs Sr.No.in National Register of Large Dams: MH09MH0929	13/06/2019 29/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri.V.R. Darade E.E.D.I.D. Dhule	Earth Dam WW & TC	Leakage Or oozing on d/s slope of embankment. (A3) Leakage through foundation of masonry bar. (B7)	Leakages appearing on d/s shall immediately be treated by providing inverted filters at exit points & the path of leakage from u/s shall be traced out & treated properly i.e. filling with impervious soil blanket or filling on u/s side Location & amount of leakages shall be monitored and if large then necessary treatment in the affected area & on its u/s may be carried out to minimize leakage.

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
27	Name: JALOD Year of Completion: 1998 Location: Longitude: 74° 45' 00 " Latitude: 21° 28' 00 " Height: 22.73 m Gross capacity: 2.60 Mm³ Spillway capacity: 742.00 cumecs Sr.No.in National Register of Large Dams: MH09MH1476	25/05/2019 26/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R. Darade E.E.D.I.D. Dhule	EE Outlet	General condition of embankment is not good.Crest profile is not at proper elevation and not free from undulation. (B1) Top width and u/s and d/s slope are not as per design. (B3) Leakage through gate.(10c to 15 LPS.) (B5)	Necessary repairs should be carried out. Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Leakages should be stopped by consulting Mechanical Organisation
28	Name: GADHAD-DEO Year of Completion: 1998 Location: Longitude: 74° 50' 30 " Latitude: 21° 36' 30 " Height: 22.80 m Gross capacity: 1.73 Mm³ Spillway capacity: 230.80 cumecs Sr.No.in National Register of Large Dams: MH09MH1468	25/05/2019 26/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R. Darade E.E.D.I.D. Dhule	EE Outlet WW& TC	General condition of dam is not good.The crest profile is not at proper elevation.Top width,u/s & d/s slope is not as per design. (B3) Leakage through gate.(10c to 15 LPS.) (B5) Stem rod is bent up. (B5) Leakage through masonry of WW bar.(10 to 20 LPS) (B7) Left side wall between WW bar & embankment is collapsed.	Necessary repairs should be carried out. Leakages should be stopped by consulting Mechanical Organisation Necessary repairs should be carried out. Necessary repairs should be carried out. Necessary repairs should be carried out.

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
30	Name: KHAMKHEDA Year of Completion: 1977 Location: Longitude: 74° 46' 00 " Latitude: 21° 7' 00 " Height: 18.71 m Gross capacity: 3.88 Mm³ Spillway capacity: 579.00 cumecs Sr.No.in National Register of Large Dams: MH09MH0641	26/05/2019 27/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R. Darade E.E.D.I.D. Dhule	EE Outlet	General condition of embankment is not good.Crest profile is not at proper elevation and not free from undulations. (B1) Top width and u/s and d/s slope are not as per design. (B3) Leakag observed from gate when it is in closed position.(About 10 to 15 lps. (B12)	Necessary repairs should be carried out. Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Leakages should be stopped by consulting Mechanical Organisation
31	Name: VIRKHEL Year of Completion: 1977 Location: Longitude: 74° 49' 00 " Latitude: 20° 39' 00 " Height: 15.5 m Gross capacity: 0.8 Mm³ Spillway capacity: 286.00 cumecs Sr.No.in National Register of Large Dams: MH09MH0419	13/06/2019 29/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R.Darade E.E.D.I.D. Dhule	EE WW & TC	Top width is short in all length of dam.(B1) Abnormal leakages through rock toe. Scouring on d/s side of bar.(A7) Leakage through COT is observed.(B3)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Necessary repairs should be carried out. Necessary repairs should be carried out. Necessary repairs should be carried out.
32	Name: SHEWADE Year of Completion: 1980 Location: Longitude: 74° 36' 00 " Latitude: 21° 10' 00 " Height: 10.5 m Gross capacity: 1.156 Mm³ Spillway capacity: 230.00 cumecs Sr.No.in National Register of Large Dams: MH09MH0829	30/05/2019 13/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R.Darade E.E.D.I.D. Dhule	EE	From chainage 510m to 780m.U/S slope of dam is slip from top of dam.(B3)	Necessary repairs should be carried out

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
33	Name: KHEKADA Year of Completion: 1977 Location: Longitude: 73° 40' 00 " Latitude: 21° 02' 30 " Height: 19.20 m Gross capacity: 1.48 Mm³ Spillway capacity: 67.00 cumecs Sr.No.in National Register of Large Dams: MH09MH0601	04/06/2019 21/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R.Darade E.E.D.I.D. Dhule	EE Outlet	Above 0.60 m settlement is observed throughout length.(B3) Leakage observed through gate in close position.(About 3 to 4 cusecs). Leakage observed through masonry of well.(About 0.25 to 0.5 cusecs). Scouring in tail channel at 40 m from bar.(A7)	Necessary repairs should be carried out. Leakages should be stopped by consulting Mechanical Organisation Necessary repairs should be carried out. Necessary repairs should be carried out.
34	Name: ROZAWA Year of Completion: 1977 Location: Longitude: 73° 52' 12 " Latitude: 21° 04' 00 " Height: 26.70 m Gross capacity: 1.738 Mm³ Spillway capacity: 198.75 cumecs Sr.No.in National Register of Large Dams: MH09MH0612	12/05/2019 24/12/2019	Smt.S.G. Shahapure E.E.D.I.D. Dhule & Shri. V.R.Darade E.E.D.I.D. Dhule	WW & TC	Heavy leakages through masonry of WW bar when the dam is at FSL .(B7)	Necessary repairs should be carried out.

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
(b)EXECUTIVE ENGINEER, JALGAON IRRIGATION DIVISION, JALGAON						
35	Name: AGNAWATI Year of Completion: 1989 Location: Longitude: 75° 13' 00 " Latitude: 20° 29' 00" Height: 14.83 m Gross capacity: 3.00 Mm³ Spillway capacity: 952.0 cumecs Sr.No.in National Register of Large Dams: MH09MH1225	13/05/2019 10/12/2019	Shri.L.M. Shinde E.E.J.I.D. Jalgaon	Earth Dam Outlet WW&TC	Dam section is not as per design. Rain cuts are observed. (B1) Standing pool observed at 60 m from d/s toe of dam between ch.1700 to 1750m. (A2) Major leakage through gate. (A4) Scouring in bottom of EDA & d/s of end wall. (A7) Leakage through right side flank wall (B7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. The d/s area at least up to above 200m. from toe, shall be free from stagnation of water The area should be well drained so as to avoid any stagnant pools of water Leakages should be stopped by consulting Mechanical Organisation Scouring on d/s to be repaired by concrete filling suitably. Necessary repairs be carried out .
(c)EXECUTIVE ENGINEER, GIRNA IRRIGATION DIVISION, JALGAON						
36	Name: KRUSHNAPURI Year of Completion: 1987 Location: Longitude: 75° 04' 00 " Latitude: 20° 56' 00" Height: 14.15 m Gross capacity: 2.176 Mm³ Spillway capacity: 595.0 cumecs Sr.No.in National Register of Large Dams:- MH09LH1166	23/05/2019 22/11/2019	Shri.D.B. Behere E.E.G.I.D. Jalgaon	Outlet W.W&TC	Leakage observed through junction of pipe. (A4) Leakage through WW bar. (B7) Scouring on d/s of bar. (A7)	Leakages should be stopped by consulting Mechanical Organisation Necessary remedial measures should be carried out. Necessary remedial measures should be carried out.
37	Name: RAJDHERE Year of Completion: 1981 Longitude: 74° 52' 00 " Latitude: 20° 18' 00" Height: 17.05 m Gross capacity: 1.94Mm³ Spillway capacity: 312.62 cumecs Sr.No.in National Register of Large Dams:- MH09MH0874	23/05/2019 22/11/2019	Shri.D.B. Behere E.E.G.I.D. Jalgaon	EE	Standing pool of water observed in nalla portion of d/s of dam. (A2) Water logging in nalla portion of d/s of dam. (A2) Scouring on d/s side of bar, coping is necessary at d/s of ww bar. (A7)	The d/s area at least up to above 200m. from toe, shall be free from thick vegetation. The area should be well drained so as to avoid any stagnant pools of water. Necessary remedial measures should be carried out. Necessary remedial measures should be carried out.

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
(2)SUPERINTENDING ENGINEER,JIPC , JALGAON						
(a) EXECUTIVE ENGINEER, MINOR IRRIGATION DIVISION, JALGAON						
38	Name: GANGAPURI Year of Completion: 1994 Location: Longitude: 75° 06' 00 " Latitude: 21° 21' 00" Height: 17.93 m Gross capacity: 2.392 Mm³ Spillway capacity: 380.0 cumecs Sr.No.in National Register of Large Dams: MH09MH1328	01/04/2019 24/11/2019	Smt.A.G. Kulkarni E.E.M.I.D. Jalgaon & Shri. S.C.Ahire E.E.M.I.D. Jalgaon	Outlet WW. & T.C.	Leakage observed on d/s side of conduit through pipe joint. (1 Cusecs) (A4) Scouring on d/s of EDA @ ch 15 m.to 40m. (A7) Retrogression in tail channel between ch 15 m. to 40 m. & 168 m.to 229 m. (A7)	All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. Scouring should be kept under observation Necessary remedial measures should be carried out. Necessary remedial measures should be carried out.
39	Name: SUR Year of Completion: 1994 Location: Longitude: 75° 06' 00 " Latitude: 21° 21' 00" Height: 17.93 m Gross capacity: 2.392 Mm³ Spillway capacity: 380.0 cumecs Sr.No.in National Register of Large Dams: MH09MH1328	10/05/2019 25/11/2019	Smt.A.G. Kulkarni E.E.M.I.D. Jalgaon & Shri. S.C.Ahire E.E.M.I.D. Jalgaon	EE WW. & T.C.	Top width,U/S& D/S slopes are not as per design.(B3) Boils,wet patches,water seepage,slushy or boggy ground on d/s of dam within 200 m fromtoe of damis observed.(A2) Standing pool are observed at chainage 20 m to 90 m and d/s of earthen dam. (A2) Leakage through outlet gate upto 1 to 2 cusecs is noticed. (A4) Leakages from masonry of spillway bar is noticed. Leakage is observed from both side flank wall. (A7 & A15) Scouring in tail channel on D/S of ww bar. (A7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. Necessary remedial measures should be carried out. The d/s area at least up to above 200m. from toe, shall be free from stagnation of water. The area should be well drained so as to avoid any stagnant pools of water. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly Scouring on d/s to be repaired by concrete filling suitably.

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
40	Name: MATRAN NALLA Year of Completion: 1994 Location: Longitude: 75° 06' 00 " Latitude: 21° 21' 00" Height: 17.93 m Gross capacity: 2.392 Mm³ Spillway capacity: 380.0 cumecs Sr.No.in National Register of Large Dams: MH09MH1328	01/04/2019 24/11/2019	Smt.A.G. Kulkarni E.E.M.I.D. Jalgaon & Shri. S.C.Ahire E.E.M.I.D. Jalgaon	WW. & T.C.	Retrogression @ d/s side of drop at chainage 70 m.upto 360 m.in tail channel & damages to bridge of PWD on river Pal road due to heavy flood. (A7)	If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Extent of retrogression should be ascertained and monitors every year by mapping. If the problem of retrogression is moving upstream and serious for geological investigation the problem shall be referred to respective organization for undertaking investigations and studies for evolving suitable solution to the problem.
41	Name: JONDHALKHEDA Year of Completion: 1997 Location: Longitude: 76° 20' 00 " Latitude: 21° 02' 30" Height: 20.39 m Gross capacity: 2.114 Mm³ Spillway capacity: 501.00 cumecs Sr.No.in National Register of Large Dams: MH09MH1437	12/04/2019 24/11/2019	Smt.A.G. Kulkarni E.E.M.I.D. Jalgaon & Shri. S.C.Ahire E.E.M.I.D. Jalgaon	W.W. & Tail Channel	Scouring is noticed in tail channel beyond chainage 30 m. (A7) Foundation of toe wall of EDA is opened due to erosion by heavy flood. (A7) Scouring on d/s of EDA. (A7)	If retrogression is moving closer to the EDA of spillway or waste weir bar, protective measures, shall be undertaken to prevent progressive damage. Necessary repairs should be carried out. Necessary repairs should be carried out

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
[D] CHIEF ENGINEER, SPECIAL PROJECT, PUNE (1) SUPERINTENDING ENGINEER KUKADI IRRIGATION CIRCLE, PUNE (a) EXECUTIVE ENGINEER, KUKADI IRRIGATION DIVISION NO.2, SHRIGONDA						
42	Name: TELENGHASHI Year of Completion: 1975 Location : Longitude: 75° 26' 00 " Latitude: 18° 20' 00 " Height: 17.12 m Gross capacity: 1.070 Mm³ Spillway capacity: 218.40 cumecs Sr.No.in National Register of Large Dams: MH09MH0486	25/05/2019 04/11/2019	Shri.S.V. Kale E.E.K.I.D.2 Shrigonda & Shri.S.N. Koli E.E.K.I.D.2 Shrigonda	Outlet WW&TC	Repairs to outlet well masonry & cleaning of well is required. (A6) Heavy leakage through masonry. Major repairs are required. (B7) Damages to concrete in bucket. (A14) Leakages through guide wall. (A14) Scouring on d/s at chainage 70 m to 80 m. (A7)	Necessary repairs to be carried out. Location & amount of leakages shall be monitored and if large then necessary treatment in the affected area & on its u/s may be carried out to minimize leakage Damaged portion shall be repaired on priority. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. Scouring is to be monitored. Scouring on d/s to be repaired by concrete filling suitably.
43	Name: VISAPUR Date of Completion: 1926 Location : Longitude: 74° 34' 55 " Latitude: 18° 48' 46 " Height: 25.60 m Gross capacity: 26.10 Mm³ Design spillway capacity: 1968 cumecs Sr.No.in National Register of Large Dams: MH09HH0054	13/05/2019 07/11/2019	Shri.S.V. Kale E.E.K.I.D.2 Shrigonda	Drains Outlet W.W&TC	Drains are fully silt up and growth of vegetation is observed. (B2) Leakage through conduit about 50 LPM. (A4) Scouring on d/s side of bar. (A7) Scouring noticed in tail channel up to 60 m length. (A7)	Necessary repairs should be carried out. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. Scouring on d/s is to be repaired by concrete filling suitably. Scouring is to be monitored. Scouring on d/s to be repaired by concrete filling suitably.

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
44	Name: NAIGAON Year of Completion: 1978 Location : Longitude: 75° 24' 00 " Latitude: 18° 19' 00" Height: 15.96 m Gross capacity: 2.368 Mm³ Spillway capacity: 756.24 cumecs Sr.No.in National Register of Large Dams: MH09MH728	13/05/2019 04/11/2019	Shri.S.V. Kale E.E.K.I.D.2 Shrigonda & Shri.S.N. Koli E.E.K.I.D.2 Shrigonda	WW&TC	Heavy leakages in spillway bar.(B7) Coping of bar is not in good condition.(B7) Scouring on d/s of bar.(A7) Guide bund of end portion is washed out. Retrogression in tail channel.(A7)	All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. Necessary repairs should be carried out. Necessary repairs should be carried out. Necessary repairs should be carried out. Scouring on d/s to be repaired by concrete filling suitably.

Sr. No	Dam features	Date of inspection	Inspecting Officer	Main component of Dam	Observations / Significant deficiencies noticed	Remedial measures suggested
1	2	3	4	5	6	7
[E]CHIEF ENGINEER, SMALL SCALE IRRIGATION (WATER CONSERVATION) , MAHARASHTRA STATE, PUNE (1)SUPERINTENDING ENGINEER, SMALL SCALE IRRIGATION (WTER CONSERVATION)CIRCLE, NASHIK (a) EXECUTIVE ENGINEER, SMALL SCALE IRRIGATION (WATER CONSERVATION) DIVISION, DHULE						
45	Name: THANEPADA Year of Completion: 1993 Location : Longitude: 74° 06' 22 " Latitude: 21° 20' 40 " Height: 19.44 m Gross capacity: 1.933 Mm³ Spillway capacity: 159 cumecs Sr.No.in National Register of Large Dams: MH09MH1151	11/05/2019 05/12/2019	Shri N.M. Dusane E.E.M.I. (L.S.) Dhule & Shri R.V.Gavit E.E.M.I. (L.S.) Dhule	Earth Dam W.W. bar & tail channel.	Settlement of embankment & Rain cuts are observed. (B3) Leakage on D/S of slope is observed. (A2) Leakages through Flank wall & guide wall are observed. (A15) Scouring at D/S side of ww bar. (A7) Some portion of guide bund is washed away. (B7)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly. All leakages need to be attended in time. Causes of leakages should be investigated & treated accordingly. Necessary repairs should be carried out. Causes of leakages should be investigated & treated accordingly. Scouring is to be monitored. Scouring on d/s to be repaired by concrete filling suitably. Necessary repairs should be carried out.
(b)EXECUTIVE ENGINEER,SSI. (W.C.) DN. NASHIK						
46	Name: ALANGUN Year of Completion: 2004 Location: Longitude: 73° 33' 36 " Latitude: 20° 33' 20 " Height: 21.7 m Gross capacity: 0.806Mm³ Spillway capacity: 21.70 cumecs Sr.No.in National Register of Large Dams: MH09LH2049	24/05/2019 19/12/2019	Shri.S.D. Shinde E.E. SSI(WC.)D Nashik & Shri.P.V. Khedkar E.E. SSI(WC.)D Nashik	WW & TC	L/s waste weir outflanking occurred during heavy rain on 29/8/2011. Much more scouring on d/s of w.w (B7) D/S guide bund of w.w. bar & d/s tail channel is washed out since 29/08/2011. (B7)	Necessary repairs to be carried out Necessary repairs to be carried out

[illegible]

Table 2.11
Damwise Health Status report of Class-II dams with category-3 deficiency

Sr. No.	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design Spillway Capacity (Cumecs)	Sr No.of Large Dam in National Register	Date of Inspection Pre & Post Monsoon	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11
[A] CHIEF ENGINEER, NMR, NASHIK (1) SUPERINTENDING ENGINEER & ADMINISTRATOR, CADA, NASHIK (a) EXECUTIVE ENGINEER, NASHIK IRRIGATION DIVISION, NASHIK										
1	Alandi	1983	73°42' 00" 20° 07' 00"	29.28	29.53	1019.00	MH09MH1003	20/05/2019 26/11/2019 26/02/2020	3.2,3.5,3.6,3.7,3.9,3.16,3.20	07
2	Amboli	1978	73°29' 00" 19° 59' 00"	17.00	3.660	106.47	MH09MH0549	20/05/2019 29/12/2019	3.2,3.9,3.20,3.7	04
3	Anjneri	2006	73°35' 40" 1456' 00"	28.14	3.242	100.45	MH09HH1804	25/05/2019 23/12/2019	3.2,3.6,3.9,3.20,3.34	05
4	Dhaur	1993	73°40' 00" 20° 12' 00"	16.07	1.18	54.38	MH09MH1301	24/05/2019 22/12/2019	3.6,3.7,3.9,3.20,3.22,3.34,	06
5	Eklahare	1984	73°47' 00" 20° 22' 00"	17.40	3.54	187.99	MH09MH1035	24/05/2019 22/12/2019	3.6,3.7,3.9,3.20,3.34	05
6	Karanjalipada	1986	74°35' 00" 20° 16' 00"	15.50	1.867	89.18	MH09MH1108	24/05/2019 22/12/2019	3.5,3.6,3.9,3.20,3.21,3.34	06
7	Khed	1990	73°42' 50" 19° 37' 05"	19.01	3.800	216.00	MH09MH1237	04/06/2019 23/12/2019	3.2,3.20,3.34	03
8	Kone	1985	73°32' 00" 20° 04' 00"	12.50	2.109	278.24	MH09MH0870	20/05/2019 23/12/2019	3.2,3.9,3.20	03
9	Khadakjamb	1973	74°14' 00" 20° 14' 00"	16.44	0.510	96.26	MH09MH0337	24/05/2019 25/12/2019	3.6,3.16,3.20,3.33	04
10	Kawadasar	1995	74°14' 00" 20° 07' 00"	17.00	1.680	57.99	MH09MH1018	24/05/2019 22/12/2019	3.5,3.6,3.7,3.9,3.20,3.21,3.22,3.34	08

Sr. No.	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design Spillway Capacity (Cumecs)	Sr No.of Large Dam in National Register	Date of Inspection Pre & Post Monsoon	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11
11	Nalegaon	1995	73°42' 50" 19° 37' 05"	20.24	2.260	72.04	MH09MH1221	24/05/2019 22/12/2019	3.5,3.7,3.9,3.16,3.20,3.22,3.34	07
12	Pimpalnare	1981	73°35' 00" 20° 18' 00"	17.73	2.250	95.69	MH09MH0849	24/05/2019 22/12/2019	3.5,3.7,3.9,3.16,3.20,3.22,3.34	07
13	Ramshej	1974	73°48' 00" 20° 06' 00"	17.09	1.69	130.48	MH09MH0329	24/05/2019 22/12/2019	3.5,3.7,3.9,3.16,3.20,3.21,3.34	07
14	Talegaon Trimbak	1997	73°37' 00" 19° 40' 00"	18.00	4.250	216.32	MH09MH1431	25/05/2019 23/12/2019	3.2,3.6,3.20,3.34	04
15	Taloshi	1992	73°37' 00" 19° 40' 00"	20.78	1.398	138.00	MH09MH1264	04/06/2019 23/12/2019	3.2,3.7	02
16	Tringalwadi	1980	73°35' 00" 20° 06' 00"	15.77	3.110	206.68	MH09MH0686	04/06/2019 23/12/2019	3.2,3.9,3.34	03
17	Sadgaon Ladchi	1998	73°36' 00" 20° 06' 00"	25.65	5.89	158.87	MH09MH1467	20/05/2019 20/12/2019 26/02/2020	3.2,3.7,3.9,3.16,3.20,3.23,3.34	07
18	Ravalgaon	1997	73°42' 00" 20° 05' 51"	17.71	1.331	58.00	MH09MH1418	24/05/2019 22/12/2019	3.5,3.6,3.7,3.9,3.16,3.20,3.34	07
19	Dhagur	1993	73°40' 00" 20° 10' 00"	19.57	1.183	51.39	MH09MH1944	24/05/2019 22/12/2019	3.5,3.7,3.9,3.16,3.22,3.34	06
20	Konambe	1971	73°45' 00" 19° 45' 00"	18.80	1.54	361.61	MH09MH0254	23/05/2019 29/12/2019	3.20,3.22,3.34	03
21	Daraswadi	1970	74°11'30" 20° 13' 00"	15.52	3.058	875.00	MH09MH0221	24/05/2019 25/12/2019	3.9,3.16,3.22	03
22	Shenwad	1994	73°36'00" 19° 41' 00"	17.90	2.906	68.19	MH09MH1322	04/06/2019 23/12/2019	3.2,3.7,3.9,3.34	04
23	Khadakozar	1963	73°40'00" 20° 12' 00"	21.57	8.429	1153.90	MH09MH0086	24/05/2019 25/12/2019	3.2,3.5,3.9,3.21	04
24	Saradwadi	1987	73°55'00" 19° 55' 14"	12.52	2.18	544.80	MH09MH1125	23/05/2019 29/12/2019	3.5,3.16,3.1,3.34	04
25.	Borkhind	1995	73°50'00" 19° 45' 09"	19.59	1.576	7.62	MH09MH1347	23/05/2019 29/12/2019	3.1,3.2,3.9,3.20,3.21,3.22,3.34	07

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1	2	3	4	5	6	7	8	9	10	11
26	Mahiravani	1984	73°39'00" 19°57' 00"	25.53	2.633	196.00	MH09MH683	20/05/2019 20/12/2019	3.2,3.5,3.9,3.34	04
27	Thangaon	1992	73°56'00" 19°42' 00"	18.71	1.424	345.00	MH09MH1220	23/05/2019 29/12/2019	3.1,3.20,3.22,3.34,3.21	05
28	Umarale (Kh)	1989	73°47'00" 20°15' 00"	15.10	1.111	34.24	MH09LH1207	24/05/2019 22/12/2019	3.5,3.6,3.7,3.9,3.16,3.20,3.21,3.22,3.34	09
29	Wadiwarhe	1983	73°39'00" 19°51' 00"	19.40	1.737	140.00	MH09MH0956	04/06/2019 23/12/2019	3.2,3.7,3.9,3.20,3.22,3.34	06
(b)EXECUTIVE ENGINEER PALKHED IRRIGATION DIVISION NASHIK										
30	Jambutke	1973	74°10' 00" 20° 19' 00"	18.27	2.520	834.88	MH09MH0415	20/06/2019 12/12/2019	3.2,3.5,3.20,3.22	04
31	Tisgaon	2000	73°57' 30" 20° 15' 10"	24.90	15.14	1804.0	MH09MH1379	20/06/2019 12/12/2019	3.2,3.7,3.9,3.13,3.20,3.22	06
32	Khadakmalegaon	1975	74°10' 00" 20° 10' 00"	16.38	3.17	899.00	MH09MH0525	20/06/2019 12/12/2019	3.9,3.34	02
(c) EXECUTIVE ENGINEER, MALEGAON IRRIGATION DIVISION, MALEGAON										
33	Bordaiwat	1976	73°26'00" 20°20' 00"	18.60	1.650	509.77	MH09MH0584	01/06/2019 06/02/2020	3.2,3.34	02
34	Bori Ambedari	1985	73°20'00" 20°24' 00"	18.87	4.910	1515.00	MH09MH1102	22/07/2019 11/04/2019	3.2	01
35	Dahikute	1974	74°36'00" 20°37' 00"	15.00	3.570	896.00	MH09MH0379	22/07/2019 11/04/2020	3.2,3.16,3.21,3.34	04
36	Dhardedigar	1979	72°55'00" 20°24' 00"	17.85	0.960	85.02	MH09MH0744	02/06/2019 20/01/2020 25/02/2020	3.2,3.9,3.31	03
37	Dunde	1986	74°19'30" 20°38' 00"	15.54	1.820	643.16	MH09MH1091	17/06/2019 30/10/2019	3.2,3.5,3.9,3.16,3.34	05
38	Jakhod	1982	73°20'00" 20°40' 00"	24.23	2.34	235.00	MH09MH0922	08/06/2019 17/01/2020	3.1,3.2,3.16	03
39	Kasari-I	199	74°45'00" 20°13' 00"	14.71	1.58	451.00	MH09MH0856	11/07/2019 29/01/2020	3.2	01

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1	2	3	4	5	6	7	8	9	10	11
40	Lohashingave	1973	74°35'00" 20°12' 00"	15.50	2.34	517.13	MH09MH0303	11/07/2019 28/01/2020	3.2,3.21	02
41	Malgaon chinchpada	1984	73°56'00" 20°20' 00"	23.39	2.82	188.00	MH09MH1034	02/06/2019 20/01/2020	3.2,3.3,3.9,3.21,3.34	05
42	Mandwadwadi	1990	74°35'30" 20°00'15"	19.35	1.28	138.39	MH09MH1250	11/07/2019 28/01/2020	3.1,3.34	02
43	Markandpimpri	1993	72°55'00" 20°24' 00"	16.11	1.150	78.20	MH09MH1303	02/06/2019 21/01/2020 25/02/2020	3.9,3.21,3.34	03
44	Nagyasakya	1992	74°36'00" 20°02' 00"	23.09	15.620	51.550	MH09MH1282	22/07/2019 NM	3.16,3.21,3.23,3.31	04
45	Pokhari	1985	74°15'15" 20°42' 00"	20.20	2.34	796.00	MH09MH1059	11/07/2019 29/01/2020	3.2	01
46	Rameshwar	1989	74°09'00" 20°36' 00"	17.00	2.02	462.00	MH09MH1240	02/06/2019 21/01/2020 25/02/2020	3.2,3.34	02
47	Rankheda	1979	74 ° 47"00" 20 ° 20" 00"	16.13	1.377	397.90	MH09MH0780	11/07/2019 29/01/2020	3.2,3.21	02
48	Warshi	1974	74 ° 12"00" 20 ° 38"00"	18.19	1.160	298.18	MH09MH0423	02/06/2019 21/01/2020	3.2,3.34	02
49	Gobapur	1976	73 ° 58"00" 20 ° 26" 00"	25.38	2.25	441.00	MH09MH0583	02/06/2019 21/01/2020 25/02/2020	3.2,3.9,3.34	03
50	Sakur	1979	74 ° 46"00" 20 ° 33" 00"	10.52	1.91	240.00	MH09MH0760	22/07/2019 28/01/2020	3.2,3.16,3.34	03
51	Pathave	1985	74 ° 18"00" 20 ° 40" 00"	18.35	1.870	235.00	MH09MH1043	08/06/2019 17/01/2020	3.2,3.9	02
52	Parsul	1884	74 ° 19"00" 20 ° 24" 00"	18.80	1.670	188.00	MH09MH0015	17/06/2019 30/12/2019 25/02/2020	3.2,3.5,3.9,3.34	04
53	Khirad	1992	74 ° 04"00" 20 ° 26" 00"	19.99	1.400	123.44	MH09MH1284	01/06/2019 06/02/2020	3.2,3.9	02

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1	2	3	4	5	6	7	8	9	10	11
54	Bhalur	1983	74° 34'00" 20° 14' 00"	15.58	1.15	349.00	MH09MH0978	11/07/2019 28/01/2020	3.1,3.2,3.21,3.34	04
55	Dhanoli	1995	73° 46'52" 20° 34' 00"	28.30	4.910	167.00	MH09MH1504	01/06/2019 04/02/2020	3.34	01
56	Jamlevani	1999	73° 49'47" 20° 26' 40"	27.63	1.66	340.37	MH09MH1507	01/06/2019 06/02/2020	3.2	01
57	Talwade Bhamer	1979	74° 18'00" 20° 48' 00"	15.45	2.560	265.33	MH09MH0776	08/06/2019 17/01/2020	3.2,3.9,3.21,3.34	04
58	Bhadane	1984	73° 30'00" 20° 34' 00"	16.20	1.520	101.00	MH09MH0957	01/06/2019 06/02/2020	3.2,3.13,3.16,3.21,3.34	05
59	Ghodambe	1990	73° 45'00" 20° 30' 00"	18.56	2.20	431.00	MH09MH1239	01/06/2019 --	3.2,3.9,3.16,3.34	04
60	Shinde	1984	74° 18'00" 20° 21' 40"	21.26	1.690	80.00	MH09MH0951	01/06/2019 04/02/2020	3.2,3.9,3.16,3.34	04
(d)EXECUTIVE ENGINEER, AHAMADNAGAR IRRIGATION DIVISION, AHAMADNAGAR										
61	Ambhore	1981	75°00'00" 19°24'00"	21.94	2.23	193.94	MH09MH109	12/05/2019 NM	3.2,3.7, 3.21,3.34	02
62	Ambikhalsa	1975	74°10'00" 19°20'34"	15.32	1.74	193.94	MH09MH512	12/05/2019 27/11/2019	3.2	01
63	Ambidumala	1993	73°07'00" 19°07'00"	29.18	4.39	386.17	MH09MH1171	12/05/2019 27/11/2019	3.2,3.7,3.9,3.16	04
64	Belapur Badgi	1973	75°20'00" 18°46' 57"	23.46	3.06	1087	MH09MH0998	07/05/2019 28/11/2019 06/03/2020	3.2	01
65	Bhalwani	1973	74°33'30" 19°06'40"	17.74	2.605	946.08	MH09MH0380	02/05/2019 31/12/2019	3.2,3.36,3.9,3.34	04
66	Bori	1981	75°00'00" 19°24'00"	21.94	1.353	193.94	MH09MH0861	07/05/2019 28/12/2019	Nil	00
67	Dhoki No.1	1981	74°25'00" 19°10'00"	17.33	1.266	1046.00	MH09MH0898	02/05/2019 26/12/2019	3.2, 3.9	02
68	Kelewadi	1980	74°10'00" 19°14'00"	17.24	0.910	121.70	MH09MH0825	12/05/2019 27/11/2019	3.2,3.7,3.9,3.34	04

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1	2	3	4	5	6	7	8	9	10	11
69	Kuttarwadi	1991	74°14'00" 19°15'00"	15.52	1.812	550.00	MH09MH1276	25/07/2019 27/12/2019	3.5,3.9,3.16,3.21	04
70	Mandohal	1979	74°19'00" 19°12'00"	27.07	11.30	1420	MH09MH0800	02/05/2019 26/12/2019	3.2,3.16,3.21,3.34	04
71	Sangavi	1994	74°14'00" 19°33'00"	18.58	2.02	660.44	MH09MH1333	07/05/2019 28/12/2019	3.2,3.16	02
72	Takalibhan	1977	74°47'00" 19°36'00"	16.60	5.490	0081.00	MH09MH0602	14/05/2019 14/12/2019	3.5,3.9,3.21	03
73	Tikhol	1975	74°25'00" 19°40'00"	18.53	2.430	848.00	MH09MH0523	02/05/2019 31/12/2019	3.2,3.6,3.9,3.16,3.34	05
74	Dhoki II	1981	74°25'00" 19°10'10"	18.53	2.430	848.00	MH09MH1945	02/07/2019 26/12/2019	3.2,3.5, 3.9	03
75	Waki	1992	73°44'04" 19°33'58"	29.83	3.19	750.00	MH09MH1403	07/05/2019 27/12/2019	Nil	00
76	Pargaon Ghatshil	1977	75°21'30" 19°12'00"	22.46	12.45	1467.00	MH09MH0653	26/04/2019 18/11/2019	3.5,3.9,3.16,3.21,3.34	05
77	Ambit	2003	73°47'30" 19°36' 30"	24.00	5.86	952.00	MH09MH1943	07/05/2019 28/12/2019	Nil	00
[B] CHIEF ENGINEER, KONKAN REGION, MUMBAI (1)SUPERINTENDING ENGINEER , THANE IRRIGATION CIRLE, THANE (a)EXECUTIVE ENGINEER MINOR IRRIGATION DIVISION , NASHIK										
78	Cholmukh	2005	73°34'00" 20°08' 00"	23.44	3.486	103.60	MH09MH1634	11/05/2019 11/01/2020	3.7	01
79	Shinde	2002	73°35'30" 20°10' 30"	20.06	1.226	105.20	MH09MH1531	11/05/2019 11/01/2020	3.2,3.20,3.34	03
80	Waigholpada	2001	73°30'30" 20°00' 00"	29.09	4.942	103.60	MH09MH1602	17/05/2019 12/01/2020	3.2,3.21	02
81	Lingawane	1987	73°35'00" 20°11' 00"	23.68	1.866	172.00	MH09MH1287	11/05/2019 11/01/2020	3.2,3.7	02
82	Inambari	1976	73°35'00" 20°16' 00"	22.57	2.470	215.20	MH09MH0563	11/05/2019 -- 20/09/2019	3.2,3.7,3.9,3.21	04

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1	2	3	4	5	6	7	8	9	10	11
83	Ambai	2010	73°29'23" 19°57' 30"	23.51	2.177	119.00	MH09LH2039	17/05/2019 11/05/2019	Nil	00
84	Harangaon	1997	73°35'00" 20°18' 00"	28.30	5.143	119.56	MH09MH1426	11/05/2019 11/01/2020	3.2,3.6	02
85	Kachurli	2011	73°29'00" 19°57' 00"	28.24	2.113	43.75	MH09LH2040	05/05/2019 12/01/2020	3.2,3.6	02
86	Chinchwad	1992	74°52'00" 19°49' 00"	21.30	2.02	183.32	MH09MH1287	17/05/2019 12/01/2020	3.1, 3.2,3.16	03
87	Jategaon	1984	73°31'00" 20°07'00"	18.94	1.73	167.24	MH09MH1030	17/05/2019 11/01/2020	3.2,3.7,3.16,3.17,3.35	05
88	Shirale	2010	73°30'05" 20°15' 10"	25.40	1.910	358.75	MH09LH2041	11/05/2019 11/01/2020	3.1,3.2,3.9	03
89	Aad	1997	73°36'00" 20°10' 00"	23.80	1.653	70.07	MH09MH1419	11/05/2019 11/01/2020 20/09/2019	3.1,3.2,3.6,3.16	04
90	Bubali	1984	73°39'00" 20°21' 00"	20.00	1.634	322.96	MH09MH0976	04/05/2019 26/12/2019	3.2,3.20	02
91	Roshani	2007	73°40'30" 20°31' 00"	29.67	5.796	719.68	MH09LH2038	17/05/2019 12/01/2020	3.1,3.2,3.5,3.6	04
92	Pahuchibari	1982	73°36'00" 20°22' 00"	17.78	1.570	336.00	MH09MH0877	05/05/2019 11/01/2020	3.2	01
93	Ambad	2015	73°39'00" 20°22' 00"	26.95	4.825	258.30	--	04/05/2019 -- 26/02/2020	3.2	01
94	Pimpraj	2015	73°38'17" 20°10' 45"	25.00	0.56	37.80	--	25/05/2019 --	3.1	01
95	Ambegan	2015	73°38'03" 20°13' 37"	25.62	0.47	42	--	12/01/2020 --	Nil	00
96	Chafyachapada	2015	73°40'31" 20°24' 53"	16.02	0.06	--	--	25/05/2019 --	3.1	01
97	Zarlipada	2015	73°38'00" 20°14' 12"	16.10	0.38	30.45	--	25/05/2019 --	3.1	01

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1	2	3	4	5	6	7	8	9	10	11
98	Dhondalpada	U/C	73°38'07" 20°21' 26"	20.50	0.324	--	--	NM --	3.1	01
99	Nanashi	U/C	73°37'03" 20°20' 48"	18.60	0.55	--	--	NM --	3.1	01
[C] CHIEF ENGINEER TIDC JALGAON (1)SUPERINTENDING ENGINEER & ADMINISTRATOR , CADA, JALGAON. (a)EXECUTIVE ENGINEER, DHULE IRRIGATION DIVISION, DHULE										
100	Deobhane	1976	74°78'00" 21°02' 00"	19.35	1.660	323.90	MH09MH0588	29/05/2019 25/12/2019	3.2,3.5,3.20	03
101	Kanoli	1974	74°47'00" 20°30' 00"	24.50	11.90	1848.00	MH09MH0452	29/05/2019 25/12/2019	3.2,3.34	02
102	Khothare	1974	74°34'00" 21°06' 00"	15.75	4.870	428.00	MH09MH0432	29/05/2019 25/12/2019	3.2	01
103	Malangaon	1970	74°50'30" 21°50' 00"	23.78	13.027	1075.1	MH09MH0223	13/06/2019 28/12/2019 14/11/2019	Nil	00
104	Ranmala	1999	73°36'00" 21°32' 00"	17.73	4.61	800.0	MH09MH1480	29/05/2019 25/12/2019	3.2,3.9,3.20,3.21	04
105	Raingan	1998	73°55'00" 21°07' 00"	24.09	7.786	642.80	MH09MH1475	04/06/2019 21/12/2019	3.2,3.5,3.34	03
106	Thanepada -1	1972	74°48'00" 21° 02' 00"	18.64	2.885	438.00	MH09MH0301	01/06/2019 22/12/2019	3.2,3.5,3.9,3.16,3.34	05
107	Ambebara	1976	74°13'00" 21°35' 00"	22.00	2.386	442.93	MH09MH0433	01/06/2019 22/12/2019	3.2,3.9,3.21,3.34	04
108	Kabryakhadak	2002	74°01'00" 21°42' 00"	21.82	3.959	829.46	MH09MH1610	13/06/2019 28/12/2019 14/11/2019	3.2,3.5	02
109	Wawad	1975	74°49'00" 20°39' 00"	16.60	1.485	224.00	MH09MH0488	01/06/2019 22/12/2019	3.2,3.9,3.34	02
110	Burudkhe	1973	74°20'00" 21°10' 00"	17.75	1.470	298.00	MH09MH0358	13/06/2019 28/12/2019	3.2	01
111	Rozwa	1977	73°52'12" 21°04' 00"	26.70	1.738	198.75	MH09MH0612	12/05/2019 24/12/2019	3.34	01

Sr. No.	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design Spillway Capacity (Cumecs)	Sr No.of Large Dam in National Register	Date of Inspection Pre & Post Monsoon	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11
112	Lauki	1983	74°55'00" 21°25' 00"	17.25	2.030	349.00	MH09MH0979	26/05/2019 27/12/2019	3.2,3.5,3.34	03
113	Lamkani	1991	74°31'44" 21°05' 39"	19.00	3.34	1820.00	MH09MH1280	29/05/2019 25/12/2019	3.2,3.5, 3.20	03
114	Anchale	1983	74°50'00" 20°54' 00"	16.41	1.070	198.78	MH09MH0960	29/05/2019 25/12/2019	3.9, 3.2, 3.21	02
115	Kakani	1987	74°25'00" 21°36' 00"	21.60	2.660	782.00	MH09MH1168	13/06/2019 29/12/2019	3.2,3.5,3.34	03
116	Kaayankada	1990	74°24'21" 20°53' 20"	17.34	2.360	557.00	MH09MH1243	13/06/2019 28/12/2019	3.2,3.5	02
117	Vikharan	1977	74°48'30" 21°37' 38"	24.90	2.644	361.00	MH09Mh0629	25/05/2019 26/12/2019	3.2,3.5,3.21,3.34	04
118	Umarani	1993	74°13'00" 21°07' 15'	16.19	1.09	102.00	MH09MH1304	09/05/2019 23/12/2019	3.2,3.9,3.21	03
119	Padalpur	1991	74°14'45" 21°39' 05"	20.75	1.70	187.00	MH09MH1305	12/05/2019 24/12/2019	Nil	00
120	Gadhavali	1994	74°15'00" 21°39' 30"	16.52	0.94	320.0	MH09MH1344	12/05/2019 --	3.34	01
121	Nawali	1998	75° 07' 00" 21°16' 00"	19.24	1.94	430.00	MH09MH1455	16/07/2019 22/12/2019	3.2,3.5,3.9,3.21,3.34	05
122	Khamkheda	1977	74°46'30" 21°07' 00"	18.71	3.220	579.00	MH09MH0641	26/05/2019 27/12/2019	3.2,3.5,3.16,3.21,3.34	05
123	Kalikarad	1977	74°48'00" 21°00' 05"	22.00	2.17	424.00	MH09MH0634	26/05/2019 27/12/2019	3.2,3.5,3.9	03
124	Virkhel	1974	74°49'00" 21°39' 00"	15.50	0.88	286.00	MH09MH0419	13/06/2019 29/12/2019	3.2,3.5, 3.34	03
125	Purmepada	1955	74 ° 47'00" 20 ° 39' 00"	24.70	13.55	2141.00	MH09MH0073	29/05/2019 25/12/2019	3.5,3.9,3.16,3.21,3.34	05
126	Khadkuna	1981	73 ° 52'19" 20 °32'30"	19.50	6.257	513.57	MH09MH0889	12/05/2019 24/12/2019	3.1	01
127	Shahane	1999	74 ° 45'00" 21 ° 37' 00"	16.20	1.88	253.00	MH09MH1949	20/05/2019 23/12/2019 17/03/2020	3.2,3.5	02

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1	2	3	4	5	6	7	8	9	10	11
128	Dahyane	2010	74 ° 41'00" 20 ° 51' 00"	18.00	4.268	734.10	MH09MH1952	01/05/2019 20/12/2019	3.20,3.21	02
129	Wadi	1988	75 ° 51'00" 21 ° 27' 00"	15.15	1.540	320.00	MH09MH1199	25/05/2019 26/12/2019	3.2,3.5,3.321,3.34	04
130	Chaugaon	1987	74 ° 34'00" 21 ° 20' 30"	21.54	6.430	938.00	MH09MH1169	30/05/2019 06/12/2019	3.2,3.9,3.20,3.34	04
131	Sonkhadki	1997	74 ° 00'00" 21 ° 01' 00"	18.48	3.279	196.00	MH09MH1428	04/06/2019 21/12/2019	3.2,3.5,3.21,3.34	04
132	Rangawali	1982	73 ° 52'12" 21 ° 04' 00"	25.63	15.02	1180.00	MH09MH0942	04/06/2019 21/12/2019	3.2,3.16,3.6,3.9,3.34	05
133	Kondaval	1987	74 ° 37'00" 21 ° 31' 00"	18.80	1.830	214.00.	MH09MH1155	20/05/2019 23/12/2019	3.2,3.9,3.16	03
134	Kulthe	1971	74 ° 48'00" 21 ° 20' 39"	13.20	3.20	654.00	MH09MH0263	29/05/2019 25/12/2019	3.9, 3.2	02
135	Budki	1975	74 ° 55'00" 21 ° 32' 00"	15.18	2.15	643.00	MH09MH0515	25/05/2019 26/12/2019	3.2,3.5,3.21,3.34	04
136	Singaspur	1997	73 ° 21'54" 21 ° 40' 40"	31.68	2.27	276.70	MH09MH1433	12/05/2019 24/12/2019 15/11/2019	3.34	02
137	Londhare	1988	74 ° 30'00" 21 ° 32' 00"	20.48	3.140	832.00	MH09MH1201	20/05/2019 23/12/2019	3.2,3.5	02
138	Nandarde	1992	74 ° 50'00" 21 ° 30' 00"	21.06	3.89	474.40	MH09MH1285	25/05/2019 26/12/2019	3.2,3.5,3.21,3.34	04
139	Wasdara	1986	73 ° 18'00" 21 ° 30' 00"	16.61	1.156	230.00	MH09MH1144	01/06/2019 20/12/2019	3.2,3.5,3.9,3.16,3.34	05
140	Shewade	1980	74 ° 36'00" 21 ° 10'00"	10.50	1.30	442.00	MH09MH0829	30/05/2019 13/12/2019	Nil	00
141	Mukti	1873	74 ° 53'00" 21 ° 44'00"	21.20	9.90	548.00	MH09MH0009	30/05/2019 06/12/2019 17/01/2020	3.2,3.5,3.34	03
142	Khekada	1977	73 ° 40'00" 21 ° 02'30"	19.20	1.480	67.00	MH09MH0601	04/06/2019 21/12/2019	3.2,3.5,3.16	03

Sr. No.	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design Spillway Capacity (Cumecs)	Sr No.of Large Dam in National Register	Date of Inspection Pre & Post Monsoon	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11
143	Mahupada	1989	73 ° 40'00" 21 ° 02'30"	16.47	2.558	126.95	MH09MH1948	12/05/2019 24/12/2019	3.5,3.20	02
144	Khaperkheda	1976	74°40'12" 20 ° 30'00"	18.30	2.70	424.00	MH09MH0581	20/05/2019 23/12/2019 17/03/2020	3.2,3.16	02
145	Wakwad	1977	74 ° 46'00" 21 ° 07'00"	28.46	2.910	418.00	MH09MH0633	26/05/2019 27/12/2019	3.2,3.5,3.21,3.34	04
146	Nandre	1979	74 ° 25'45" 21 ° 00'05"	17.37	2.37	382.00	MH09MH0778	29/05/2019 25/12/2019	3.2,3.9,3.16	03
147	Kholghar	1986	74 ° 49'00" 20 ° 39'00"	26.00	4.314	470.99	MH09MH1121	01/06/2019 22/12/2019	3.2,3.5,3.9,3.16,3.34	05
148	Dhanibara	1985	74 ° 48'00" 21 ° 02'00"	19.65	1.660	418.80	MH09MH1085	01/06/2019 01/06/2020	3.2,3.5,3.9,3.34	04
149	Khandlay	1974	74 ° 25'45" 21 ° 00'05"	21.90	1.593	413.00	MH09MH0430	29/05/2019 25/12/2019	3.2	01
150	Khokhasa	1995	74 ° 40'12" 21 ° 34'00"	24.72	1.523	135.00	MH09MH1368	04/06/2019 21/12/2019	3.2,3.9,3.5,3.16,3.34	05
151	Shelbari	1982	74 ° 08'30" 20 ° 50'00"	20.70	1.589	403.00	MH09MH0929	13/06/2019 29/12/2019	3.2,3.5,3.9,3.34	04
152	Hatti	1973	74°21'30" 21 ° 13'00"	18.75	2.740	659.00	MH09MH0373	30/05/2019 13/12/2019	3.2,3.5,3.9,3.16	04
153	Chhawadi	1973	74 ° 31'00" 21 ° 06'00"	17.20	4.420	1243.00	MH09MH0383	30/05/2019 13/12/2019	3.2,3.9,3.16	03
154	Mugdhan	1982	73 ° 45'00" 21 ° 07'00"	21.37	2.730	168.00	MH09MH1075	04/06/2019 21/12/2019	3.2,3.5,3.9,3.16,3.21,3.34	06
155	Haldani	1989	73 ° 58'12" 21 ° 09'00"	19.42	3.420	410.00	MH09MH1231	04/06/2019 21/12/2019	3.2,3.5,3.9,3.16,3.20,3.21,3.34	07
156	Sulipada	1987	73 ° 50'00" 21 ° 09'00"	17.03	1.82	230.00	MH09MH1176	04/06/2019 21/12/2019	3.2,3.5,3.9,3.16,3.21,3.34	06
157	Jalod	1998	74 ° 45'00" 21 ° 28'00"	22.73	2.60	742.00	MH09MH1476	25/05/2019 26/12/2019	3.2,3.5,3.21	03

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1	2	3	4	5	6	7	8	9	10	11
158	Gadhad - Deo	1998	74° 50'30." 21° 36'30"	22.80	1.730	230.00	MH09MH1468	25/05/2019 26/12/2019	3.2,3.5,3.21,3.34	04
(b)EXECUTIVE ENGINEER, JALGAON IRRIGATION DIVISION, JALGAON										
159	Abhora	1986	74°16'30" 19°28' 45"	27.16	7.440	1048	MH09MH1135	11/05/2019 20/12/2019	3.1,3.6, 3.16,3.20,3.21,3.22	06
160	Velhale	1995	75°52'00" 21°00' 00"	17.75	1.990	264.01	MH09MH0069	15/05/2019 --	3.2,3.7, 3.9	03
161	Gondegaon	1970	75°37'00" 20°40' 00"	16.56	2.10	383.00	MH09MH0206	14/05/2019 22/11/2019	3.2,3.16,3.34	03
162	Tondapur	1992	75°15'00" 21°30' 00"	15.30	6.30	1332.00	MH09MH1298	14/05/2019 22/11/2019	3.2,3.7,3.9,3.22	04
163	Hivara	1980	75°40'00" 20°36' 00"	15.21	12.770	2738.00	MH09LH1342	13/05/2019 10/12/2019	3.1,3.2,3.5,3.6,3.9,3.20,3.35	07
164	Lahasar	1979	75°50'00" 20°47' 00"	14.96	1.64	237.00	MH09LH0759	14/05/2019 22/11/2019	3.7,3.9,3.21,3.20	04
165	Pimpri	1973	75°34'00" 20°39' 00"	15.88	2.015	452.72	MH09LH0649	14/05/2019 22/11/2019	3.5,3.9	02
166	Kalamsara	1998	75°20'00" 20°20'00"	16.00	6.92	1097.00	MH09LH1494	13/05/2019 --	3.2,3.5,3.6,3.9, 3.34	05
167	Agnawati	1989	75°13'00" 20°29'00"	14.83	3.00	952.00	MH09MH1225	13/05/2019 10/12/2019	3.6,3.9,3.20	03
168	Sarva Pimpri	1985	75°30'00" 20°37'00"	15.81	2.96	853.00	MH09MH1097	13/05/2019 10/12/2019	3.7,3.9,3.16,3.19	04
169	Charthana	1979	76°15'4" 21°3'00"	17.60	1.388	209.40	MH09MH0864	15/05/2019 --	3.2,3.6,3.9,3.15,3.20,3.21	06
(c)EXECUTIVE ENGINEER, GIRNA IRRIGATION DIVISION, JALGAON										
170	Kankraj	1971	75°04'00" 20°56' 00"	10.72	2.450	587.69	MH09MH0305	10/05/2019 26/11/2019	3.7,3.9,3.16,3.20,3.22,3.34	06
171	Hatgaon-I	1973	74°52'00" 20°24' 00"	17.04	1.643	508.12	MH09MH0365	23/05/2019 22/11/2019	3.9	01
172	Krushnpuri	1997	74°38'00" 20°58' 00"	16.38	2.740	308.89	MH09MH1440	23/05/2019 22/11/2019	3.6,3.9,3.20,3.22,3.23	05

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1	2	3	4	5	6	7	8	9	10	11
173	Rajdehare	1981	74°52'00" 20°24' 00"	16.50	1.941	312.00	MH09MH0874	23/05/2019 22/11/2019	3.9,3.16,3.19,3.20,3.34	05
174	Bhokarbari	1978	75°07'00" 20°55' 00"	22.45	7.09	187.50	MH09MH0682	10/05/2019 26/11/2019	3.22	01
175	Valthan	1987	75°04'00" 20°56'00"	14.15	2.176	595.00	MH09LH1166	23/05/2019 22/11/2019	3.7,3.5,3.20,3.34	04
(2)SUPERINTENDING ENGINEER,JALGAON IRRIGATION PROJECT CIRCLE, JALGAON										
(a)EXECUTIVE ENGINEER, M.I.D. JALGAON										
176	Dighi-II	1988	75°10'50" 21°20' 00"	18.87	1.057	224.95	MH09MH1191	10/04/2019 26/11/2019	3.2,3.9,3.16,3.20	04
177	Hatgaon-II	1998	74°52'00" 20°24' 00"	19.81	2.372	995.69	MH09MH1478	10/04/2019 26/11/2019	3.2,3.20	02
178	Nashirabad	1996	74°38'00" 20°58' 00"	16.80	3.125	982.00	MH09MH1407	12/04/2019 25/11/2019	3.1,3.2,3.9,3.22	04
179	Galan –II	2006	75°15'30" 20°34' 46"	16.17	2.648	628.49	MH09MH1958	10/04/2019 26/11/2019	3.2,3.7,3.9,3.16,3.20	05
180	Chinchati (Lohara)	2006	75°56'00" 21°17' 00"	18.74	1.825	308.00	MH09MH1957	01/04/2019 24/11/2019	3.2	01
181	Devhari	2002	75°45'00" 20°38' 00"	15.60	3.104	632.94	MH09MH1170	10/05/2019 25/11/2019	3.2, 3.7	02
182	Kotgaon	2007	75°00'00" 20°26' 00"	18.00	7.162	1010.38	MH09MH1960	14/05/2019 26/11/2019	3.2,3.7,3.9,3.16,3.20	05
183	Odhare	2010	75°58'30" 20°21' 15"	17.50	3.972	369.88	MH09MH1961	14/05/2019 26/11/2019 17/01/2020	3.2,3.7,3.9,3.22	04
184	Moygaon	2007	75°43'00" 20°40' 00"	15.73	4.622	237.70	MH09MH1963	08/05/2019 25/11/2019	3.2,3.7,3.9,3.20	04
185	Hijryanalla	2009	75°43'00" 20°40' 00"	15.56	1.854	57.84	MH09MH1964	08/05/2019 25/11/2019	3.2,3.7, 3.20	03
186	Paldhi	2007	75°43'00" 20°40' 00"	17.53	4.755	81.35	MH09MH1965	08/05/2019 25/11/2019 20/03/2020	3.2,3.7,3.9,3.20	04

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187	Londhari	2007	75°43'00" 20°40' 00"	15.60	2.609	88.35	MH09MH1962	08/05/2019 25/11/2019	3.2,3.7,3.20	03
188	Vadri	1994	75°42'00" 20°16' 00"	26.64	2.510	874.46	MH09MH1336.	12/04/2019 24/11/2019	3.16,3.20,3.21	03
189	Gangapuri	1994	75°06'00" 21°21'00"	17.93	2.392	380.00	MH09MH1328	01/04/2019 24/11/2019	3.2,3.9	02
190	Sur	2008	75°59'00" 20°42'30"	17.98	10.478	1378.40	MH09MH1966	10/05/2019 25/11/2019	3.2,3.7,3.9,3.20	04
191	Matran nalla	2006	75°59'00" 21°17'40"	24.17	3.482	547.29	MH09MH1959	01/04/2019 24/11/2019	3.2,3.16,3.9	03
192	Jondhalkheda	1997	76°20'00" 21°02'30"	20.39	2.114	501.00	MH09MH1437	12/04/2019 24/11/2019	3.2,3.5,3.9,3.13,3.16,3.20,3.21	07
(3)SUPERINTENDING ENGINEER, DIPC, DHULE										
(a)EXECUTIVE ENGINEER , GIRANA RIVER VALLEY PROJECT DN, NASHIK										
193	Nanduri	2009	73°55'00" 20°26' 00"	19.70	1.576	227.76	MH09MH1813	15/05/2019 28/11/2019 25/02/2020	3.1,3.9, 3.23	03
194	Dasane	1985	74°01'00" 20°40'00"	16.52	2.340	232.02	MH09MH0216	18/05/2019 28/11/2019	3.1,3.2,3.9,3.16	04
(b)EXECUTIVE ENGINEER, MINOR .IRRIGATION .DIVISION. DHULE										
195	Abhanpur	2004	74°42'00" 25°28' 00"	25.99	3.660	635.00	MH09MH1951	05/06/2019 27/11/2019	3.5,3.7,3.9,3.13,3.16,3.19,3.22	07
196	Fagane	2007	74°51'00" 20°52' 00"	25.99	3.660	635.00	MH09LH1953	07/05/2019 27/11/2019	3.5,3.9,3.13,3.20	04
(c))EXECUTIVE ENGINEER , NANDURBAR MEDIUM PROJECT DIVISION. NANDURBAR										
197	Deolipada	2005	74°12'00" 21°03'00"	17.03	3.34	232.12	MH09MH1969	09/05/2019 30/11/2019	3.5,3.9,3.16,3.19,3.20,3.28	06
198	Chirda	2010	74°23'00" 21°23'00"	16.61	2.679	952.0	MH09MH1968	10/05/2019 06/01/2020 17/03/2020	3.5,3.7,3.16,3.20,3.21, 3.28	06
199	Choupale	2010	74°23'00" 21°23'00"	16.61	2.679	547.72	MH09MH2250	10/05/2019 05/12/2019 15/11/2019	3.5,3.7,3.9,3.20,3.28,3.34	06

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1	2	3	4	5	6	7	8	9	10	11
200	Nesu	2009	74°30'00" 21°30'00"	20.72	11.04	1036.73	MH09MH1972	09/05/2019 21/12/2019 15/11/2019	3.1,3.5,3.7,3.9,3.20, 3.28,3.34	07
201	Amrawati nalla	2004	74°20'00" 21°02'00"	19.41	21.06	1224.40	MH09MH1967	11/05/2019 18/12/2019	3.5,3.7,3.20,3.28	04
202	Visarwadi	1990	74°00'00" 20°07'30"	29.40	6.81	651.80	MH09MH1238	09/05/2019 21/12/2019	3.5,3.6,3.9,3.28	04
203	Ranknalla	2007	74°27'00" 20°21'00"	14.87	6.77	1188.42	MH09LH1975	10/05/2019 21/12/2019	3.5,3.7,3.9,3.28,3.34	05
204	Mendipada	1972	74°44'58" 18°36'56"	16.86	2.995	1271.13	MH09MH0528	09/05/2019 21/12/2019	3.5,3.7,3.9,3.16,3.19,3.20,3.22	07
[D] CHIEF ENGINEER SPECIAL PROJECT, PUNE										
(1)SUPERINTENDING ENGINEER, KUKADI IRRIGATION CIRCLE,PUNE.										
(a) EXECUTIVE ENGINEER, KUKADI IRRIGATION DIVISION NO.2, SHRIGONDA										
205	Bardari	1973	74°51'00" 19°06' 30"	16.18	1.860	561.03	MH09MH0370	NM NM 04/03/2020	3.5,3.7,3.9,3.20,3.34	05
206	Deulgaon siddi	1972	74°45'00" 18° 43'00"	15.40	2.320	927.00	MH09MH0308	NM NM	3.1, 3.2,3.7,3.9,3.16,3.20,3.34	07
207	Bhutwada	1973	75°20'00" 18° 46'57"	23.46	3.06	1087.00	MH09MH0382	25/05/2019 05/11/2019	3.5, 3.6,3.7,3.9,3.20,3.22	06
208	Khairy	1990	75°26'00" 18° 16'00"	18.10	15.110	1962.00	MH09MH1227	25/05/2019 04/11/2019	3.5,3.7,3.9,3.16,3.21,3.20	06
209	Hanga	1978	75°38'00" 18° 19' 00"	15.84	1.830	1010.00	MH09MH0734	NM NM	3.7,3.9,3.16,3.20,3.21,3.22	06
210	Ratnapur	1985	75°17'00" 18° 43'00"	17.20	2.370	1583.08	MH09MH1103	25/05/2019 05/11/2019	3.2,3.7,3.9,3.16,3.20,3.21,3.34	07
211	Dhondpargaon	1977	74°25'00" 19° 10' 00"	18.35	2.483	534.48	MH09MH0639	25/05/2019 05/11/2019	3.7,3.9,3.20,3.21	04
212	Kaudgaon	1973	74°05'00" 19° 06' 00"	15.55	2.487	770.00	MH09MH0374	NM NM 04/03/2020	3.7, 3.20,3.21, 3.16	04

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1	2	3	4	5	6	7	8	9	10	11
213	Chichondi patil	1977	74°55'00" 19°00'00"	15.06	2.80	908.72	MH09MH0647	NM NM	3.2,3.9,3.16,3.20	04
214	Bhatodi	1892	74°53'00" 19°03'10"	15.24	1.05	760.33	MH09MH0019	NM NM	3.9,3.20	02
215	Naigaon	1978	75°24'00" 18°19'00"	15.96	2.368	756.24	MH09MH728	13/05/2019 04/11/2019	3.6,3.7,3.9,3.16,3.20	05
216	Telanghashi	1975	75°26'00" 18°20'00"	17.12	1.070	218.40	MH09MH0486	25/05/2019 04/11/2019	3.1,3.6,3.7,3.9,3.16,3.20,3.34	07
217	Visapur	1926	74°34'55" 18°48'46"	25.60	26.10	1968.00	MH09MH0054	15/05/2019 30/11/2019	3.2,3.5,3.6,3.7,3.9,3.16,3.34	07
218	Ghodegaon	1972	74°44'58" 18°36'56"	16.86	2.995	1271.13	MH09MH0528	NM 07/11/2019	3.6,3.7,3.8,3.9,3.16,3.20,3.22,3.34	08
(b)EXECUTIVE ENGINEER, KUKADI IRRIGATION DIVISION NO.1,NARAYANGAON										
219	Yesarthav	2008	73°56'27" 19° 21' 04"	35.03	7.466	949.00	MH09LH2042	NM 05/12/2019	3.20, 3.22	02
[E] CHIEF ENGINEER, SMALL SCALE IRRIGATION (WATER CONSERVATION) , PUNE										
(1)SUPERINTENDING ENGINEER,MINOR IRRIGATION DIVISION (LOCAL SECTOR),NASHIK										
(a)EXECUTIVE ENGINEER, SSI(WC) DIVISION ,Nashik										
220	Kumsadi	1996	73°49'00" 20° 34' 05"	17.94	0.637	41.10	MH09LH2043	20/05/2019 19/12/2019	3.2,3.5,3.7,3.16	04
221	Kuttarbari	2007	74°14'00" 19° 15' 00"	20.69	0.581	83.44	MH09LH2044	20/05/2019 19/12/2019	3.20,3.21	02
222	Takedeogaon	1996	73°27'30" 19° 48' 30"	22.41	1.669	61.44	MH09LH2047	13/05/2019 13/12/2019	3.2,3.5,3.6,3.7,3.16,3.22	06
223	Bilvatirth	2001	73°30'30" 20° 03' 20"	15.81	0.849	18.68	MH09LH2048	13/05/2019 13/12/2019	3.2,3.5,3.6,3.7,3.22	05
224	Dudgaon	1998	73°38'00" 19° 56' 53"	23.62	2.006	567.74	MH09LH2046	13/05/2019 11/12/2019	Nil+	00
225	Rahud	1984	74°18'00" 20°21' 40"	18.55	0.887	239.73	MH09MH0823	18/05/2019 16/12/2019	3.2,3.16	02
226	Alangun	2004	73 ° 33'36" 20 ° 33'20"	21.70	0.806	21.70	MH09LH2049	24/05/2019 19/12/2019	3.9,3.22	02

Sr. No.	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design Spillway Capacity (Cumeecs)	Sr No.of Large Dam in National Register	Date of Inspection Pre & Post Monsoon	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11
(b)EXECUTIVE ENGINEER, SMALL SCALE IRRIGATION (WATER CONSERVATION) DIVISION, DHULE										
227	Chinchve	2005	74 ° 29'00" 20 ° 07'00"	17.30	1.873	565.00	MH09LH2028	18/05/2019 16/12/2019	3.2	01
228	Ranipur	2001	74 ° 15'08" 21 ° 40'06"	28.31	3.48	540.00	MH09LH2045	11/05/2019 26/12/2019	3.5,3.9,3.20,3.21,3.13,3.23	06
229	Shirwade	1993	74°06'22" 21°20'40"	19.44	1.933	159.00	MH09MH1151	11/05/2019 05/12/2019	3.5,3.10,3.13,3.16,3.19,3.35	06
230	Thanepada	1972	74°48'00" 21° 02'00"	18.64	2.88	208	MH09MH0301	11/05/2019 05/12/2019	3.1,3.2,3.5,3.6,3.7,3.9,3.16,3.20,3.22	09

Table 2.12

Dam wise Health status report of Private Class-I dams with category-1 deficiency

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
<p>----- No Such Dams under this class -----</p>						

Table 2.13

Dam wise health status report of private Class-I dams with category-2 deficiency

Sr. No	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
----- No Such Dams under this class -----						

Table 2.14

Dam wise Health status report of Private Class-I dams with category-3 deficiency

Sr. No	Name of Dam	Date of Completion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm ³	Design Spillway Capacity m ³ / sec	Sr.No. in NRLD Register	Gated / Ungate d	Date of Inspection Pre & Post	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
The Comissioner, Nashik Municipal Corporation, Nashik											
1	Chehedi Bandhara	2008	73°51'26" 19° 55' 53"	7.50	3.879	191.00	MH09LH2058	Gated	--	--	--

Table 2.15

Dam wise Health status report of Private Class-II dams with category-1 deficiency

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
----- No Such Dams under this category is reported -----						

Table 2.16

Dam wise health status report of private Class-II dams with category-2 deficiency

Sr. No	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
MAHARASHTRA JEEVAN PRADHIKARAN, WATER MANAGEMENT DIVISION,NASHIK						
1.	Name:Talegaon Year of Completion:- 1987 Location : Longitude:- 73° 32' 37 " Latitude: - 19° 40' 42 " Height: 21.80 m. Gross capacity 11.68 Mm³ Spillway capacity: 36.00 cumecs Sr.No.in National Register of Large Dams: MH09LH2058	10/12/2019	Shri. P.H. Mohite, E.E.D.S.D.3, Nashik	Earth Dam W.W bar & T.C.	Some stagnant water in nalls portion & at one place D/S of dam toe was observed. (A2) Ungated spillway bar is found in unfinished condition. Also height of both the flank wall of W.W. bar should be increased upto dam top level. (B7)	Stagnant Water should be drained out properly & record should be maintained against reservoir water levels. Remaining work of W.W. bar should be carried out immediately.

Table 2.17

Dam wise Health status report of Private Class-II dams with category-3 deficiency

Sr. No	Name of Dam	Date of Completion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm ³	Design Spillway Capacity m ³ / sec	Sr.No. in NRLD Register	Date of Inspection Pre & Post	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11
CHIEF ENGINEER MIDC MUMBAI			SUPERINTENDING ENGINEER MIDC JALGAON				EXECUTIVE ENGINEER MIDC DHULE			
1	Motinalla	1987	74°45'00" 20°59'00"	19.03	1.690	365.00	MH09MH1161	24/06/2019 16/01/2020	3.1,3.7,3.5	03
EXECUTIVE ENGINEER, M.J.P. WATER MANAGEMENT DN. NASHIK										
2	Malmatha	1976	74°29'00" 20°44'00'	8.330	3.650	24.90	Proposed to be included in NRLD	25/06/2019 16/01/2020	3.1,3.2,3.7,3.9,3.5	05
CHIEF OFFICER, IGATPURI NAGAR PARISHAD, IGATPURI										
3	Bara Banglow	---	---	---	---	---	Proposed to be included in NRLD	- 10/12/2019	3.33,3.7,3.5,3.1,	04
COMMISSIONER, DHULE MUNICIPAL CORPORATION, DHULE										
4	Dedargaon	---	---	---	---	---	MH09LH2058	24/06/2019 16/01/2020	3.1,3.2,3.5,3.6,3.9,3.20,3.4,3.16	08
COMMISSIONER, MALEGAON MUNICIPAL CORPORATION, MALEGAON										
5	Talwade	2004	74°20'09" 20°23'00'	18.85	1.174	136.68	MH09LH2058	25/06/2019 16/01/2020	3.1,3.5,3.6,3.21,3.9,	05
CEO, NANDGAON NAGAR PARISHAD, NANDGAON, DIST. NASHIK										
6	Dahegaon	1975	---	20.00	2.090	1940.00	MH09LH2058	- 20/12/2019	3.1,3.9,3.7,3.2,3.5,3.16,3.34	07
CEO, MANMAD NAGAR PARISHAD, MANMAD, DIST. NASHIK										
7	Wagdardi	1972	---	10.67	2.25	3110.00	MH09LH2058	- 20/12/2019	3.1,3.9,3.7,3.5,3.16,3.19	06

Sr. No.	Name of Dam	Year of Completion	Location	Height in meters	Gross Capacity (Mm3)	Design Spillway Capacity (Cumecs)	Sr No.of Large Dam in National Register	Date of Inspection Pre & Post Monsoon	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11
SUPERINTENDING ENGINEER , MAHARASHTRA JEEVAN PRADHIKARAN, WATER MANAGEMENT DIVISION,NASHIK EXECUTIVE ENGINEER ,MAHARASHTRA JEEVAN PRADHIKARAN, WATER MANAGEMENT DIVISION,NASHIK										
8	Talegaon	1987	73° 32' 37 " 19° 40' 42 "	21.80	11.68	36.00	MH09LH2058	- 10/12/2019	3.1,3.2,3.5,3.7,3.9,3.16	06

Table 2.18**Significant category 2 deficiency wise list of class-I dams**

Sr. No	Deficiency	Names of dams	Total no of dams
1	2	3	4
1	A.1: Boil leakage/ seepage/ wet patches/ slushiness,in Earthen Dam.	1)Gul	01
2	A 2: Standing pool / Ponding / Water Logging / Slushy condition on D/S of Dam	1)Mula, 2) Sina	02
3	A 4 : Major leakages through outlet conduit/pipe joints/Gates	1) Sina	01
4	A 6 : Outlet well is damaged/not in good condition /cracks observed/jets of water in well.	1) Sina	01
5	A 7 : Retrogression /scouring in tail channel.	1)Sina	01
6	A 8 : Drainage gallery in accessible/No adequate lighting./ No dewatering arrangement or failure.	1)Gul	
7	A 10 : Heavy leakages through porous pipes/ through dam body in gallery /monolith joints.	1)Gul, 2) Punad	02
8	A 11 : Sweating / seepages through D/S of masonry dam	1)Bhandardara	01
9	A 12 : Excessive considerable leaching from seepage water	1)Bhandardara, 2)Mula	02
10	A 13 : Swelling / minor cracking observed on body of dam	1)Bhandardara	01
11	A 14 : EDA / Stilling basin damaged/Hydraulic performance not good	1)Balthan, 2)Manyad	02
12	A 15 : Leakages through spillway /piers//junction of flank wall.	-----	00
13	A 16 : Damages / foundation erosion/ scour/undermining observed in vicinity of flank walls/ guide walls/ junction walls/return walls	1)Manyad, 2)Punand	02
14	A 17 : End weir not in good condition / scouring noticed on immediate D/S.	-----	00
15	A 18 : Wire ropes of hoist not in good condition/hoisting structure damaged/cracked.	1)Bhandardara, 2) Mula	02
16	A 19 : Alternative power system Generator for gate operation not working properly.	1)Gul	01
17	A 20 : Operation of gates not smooth needs repair.	1)Sina	01
18	B 1 Dam section is not as per design	--	00
19	B 2 : Cross and toe drains not working properly/ drains silted or vegetated causing stagnant pool of water.	--	00

20	B 3 : Considerable settlement of embankment / Rock toe/Pitching/ U/S & D/S slopes, bulging/concavity of slopes	--	00
Sr. No	Deficiency	Names of dams	Total no of dams
1	2	3	4
21	B 4: Longitudinal / Transverse cracks/ low area/sink holes/gully formation on top side slope of earthen dam	--	00
22	B 5 : Outlet gates not functioning properly. Stem rod is bent(Service gate/Emergency gate/Stop log gate/sluice gate)	1)Ranipur	01
23	B 6 : Approach to dam through all weather road not constructed/maintained properly	--	00
24	B 7: Waste weir/waste weir bar not in good condition/coping damaged/leakage through waste weir	1)Ranipur	01
25	B11: Surface paint/steel surface of spillway gates deteriorated.	--	00

Table 2.19

Significant category 2 deficiency wise list of class-II dams

Sr. No	Deficiency	Names of dams	Total no of dams
1	2	3	4
1	A.1: Boil leakage/ seepage/ wet patches/ slushiness,in Earthen Dam.	1)Khaperkheda 2)Nandre 3)Dhanibara 4)Thanepada 5)Chinchave 6) Sur 7)Jamlevani8)Dhanoli9)Ambikhalasa 10)Shelbari11)Virkhel 12)Kabryakhadak	12
2	A 2: Standing pool / Ponding / Water Logging / Slushy condition on D/S of Dam	1) Chinchave 2) Sur 3)Mukti 4) Rajdhere 5)Khokasa 6)Agnawati	06
3	A 3 : Leakages in vicinity of junction between earthen dam & masonry dam portion.	--	00
4	A 4 : Major leakages through outlet conduit/pipe joints/Gates	1)Jamalevani 2)Ghodambe 3)Shinde 4) Krushnapuri 5) Khekada 6)Khaparkheda 7)Wakwad 8)Kholghar 9)Dhanibara 10)Khokasa 11)kabryakhadak 12)Agnavati 13)Gangapuri 14)Sur 15)Visapur 16)Chinchave 17)Mahiravani 18) Khamkheda 19) Gadhad-deo 20)Mahupada 21)Nandre 22)Khandlay 23) Jalod	23
5	A 6 : Outlet well is damaged/not in good condition /cracks observed/jets of water in well.	1) Chinchave 2)Dhanibara 3)Khandlay 4) Khekada 5)Telanghashi 6)Inambari 7) Kholghar 8) Khokasa 9)Jategaon 10)Bhadane 11)Shinde 12)Tringalwadi 13)Taloshi 14)Rankheda	14
6	A 7 : Retrogression /scouring in tail channel.	1) Mahiravani 2) Virkhel 3) Alangun 4) Rajdhere 5)Ghodambe 6)Shinde 7)Naigaon 8) Visapur 9) Jategaon10)Telanghashi 11) Bubli 12) Mahupada 13)Khaparkheda 14)Kholghar 15) Thanepada 16)Haldhani 17)Krushnapuri 18)Agnawati 19)Khekada 20)Valthan 21)Gangapuri 22)Sur 23)Matran-Nalla 24)Jondhalkheda	24
7	A 10 : Heavy leakages through porous pipes/ through dam body in gallery /monolith joints.	--	00
8	A 14 : EDA / Stilling basin damaged/Hydraulic performance not good	1)Dhanibara 2)Ambit 3)Kholghar 4) Jondhalkheda 5) Kabryakhadak	05
9	A 15 : Leakages through spillway /piers//junction of flank wall.	1)Bhadane 2) Agnavati 3)Sur 4)Thanepada 5)Jategaon 6) Kabryakhadak	06
10	A16 : Damges/foundation erosion/scour/undermining observed in vicinity of flank walls/guidewalls/junction walls/return wall	1) Inambari	01

Sr. No	Deficiency	Names of dams	Total no of dams
1	2	3	4
11	A 18 :Wire ropes of hoist not in good condition/hoisting structure damaged/cracked.	1)Kholghar	01
12	B 1 Dam section is not as per design	1) chinchave 2)virkhel 3) khamkheda 4) Jalod 5) Dhanibara 6) Sur 7) Aad 8) Ghodegaon 9)Ghodambe 10) Agnawati 11)Bubali 12)Mukti 13)Khaparkheda 13)Wakwad 14)Kholghar 15)Khoksa 16)Khandlay 17)Chavvadi 18) Gadhad-deo 19)Rankheda 20) Haldani 21) Nandre 22) Bhadane 23) Mahupada 24)Jamlevani	24
13	B 3 : Considerable settlement of embankment / Rock toe/Pitching/ U/S & D/S slopes, bulging/concavity of slopes	1)Inambari 2) Khekada 3) Shewade 4)Kholghar 5) Khamkheda 6) Gadhad-deo 7) Aad 8) Jalod 9)Khokasa 10)Dhanibara 11)Thanepada 12)Chavvadi 13)Chinchave 14)Haldani 15)Kabryakhadak	15
14	B 4 : Longitudinal / Transverse cracks/ low area/sink holes/gully formation on top side slope of earthen dam	1)Khandlay	01
15	B 5 : Outlet gates not functioning properly. Stem rod is bent(Service gate/Emergency gate/Stop log gate/sluice gate)	1) Gadhad-deo 2) Haldani3) Khandlay 4)Bubali 5) Kholgha6)Mukti 7)Nandre 8) Chinchave	08
16	B 7 : Waste weir/waste weir bar not in good condition/coping damaged/leakage through waste weir	1) Telanghashi 2) Tringalwadi 3)Jamlevani 4)Naigaon 5) Shelbari 6) Sur 7)Wakwad 8)Krushnapuri 9)Virkhel 10) Mahiravani 11)Dhanibara 12) Chawadi 13) Alangun 14)Gadhad-Deo 15)Kabryakhadak 16)Rozawa	16
17	B12 :Poor condition of rubber seal/leakages through gates	1) Bhadane 2) Ghodambe	02

Chart-1
Districtwise & Classwise Dams in
North Maharashtra Region

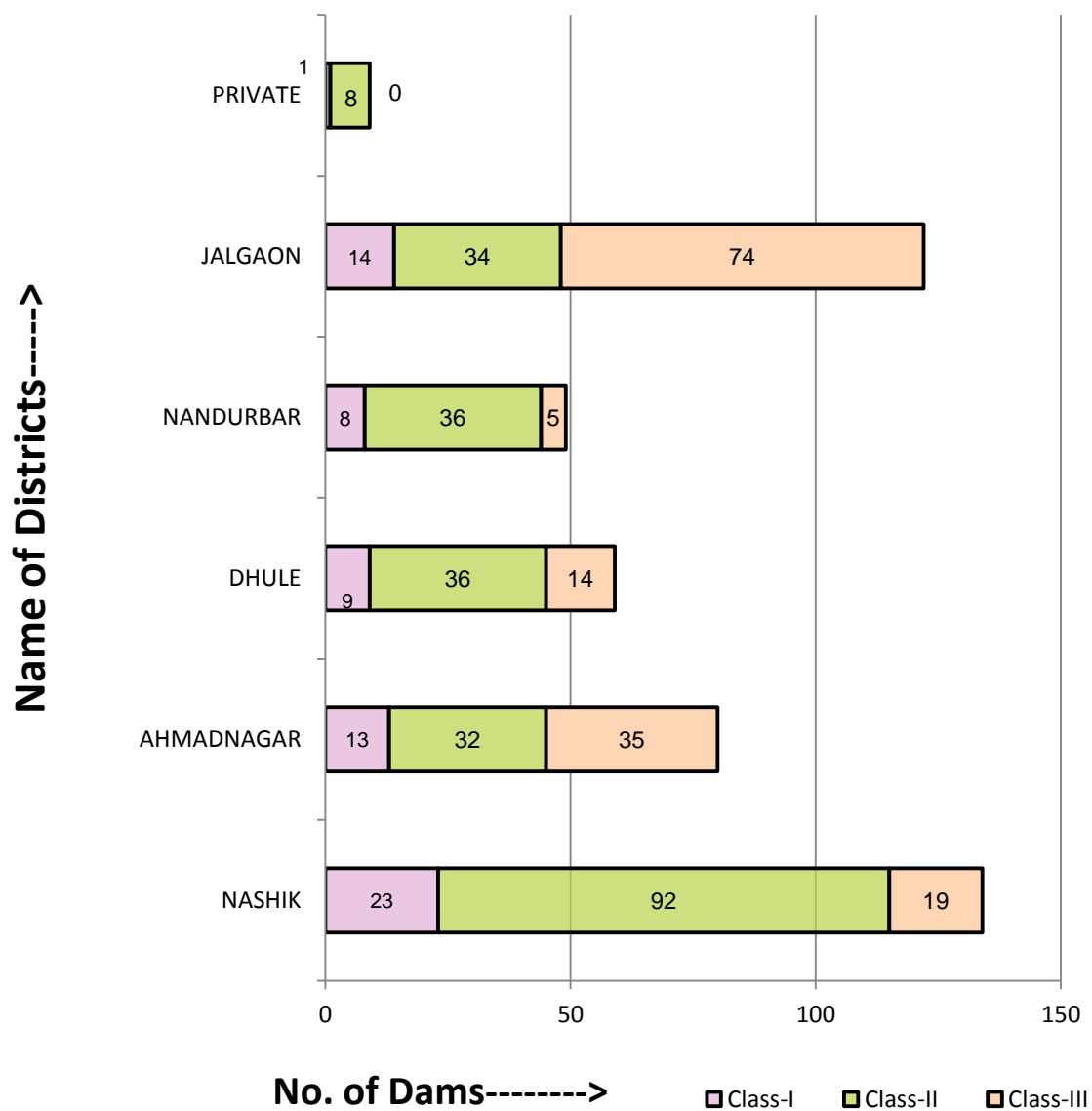


Chart-2
Significant Category-2 Deficiencies in Class -I Dams

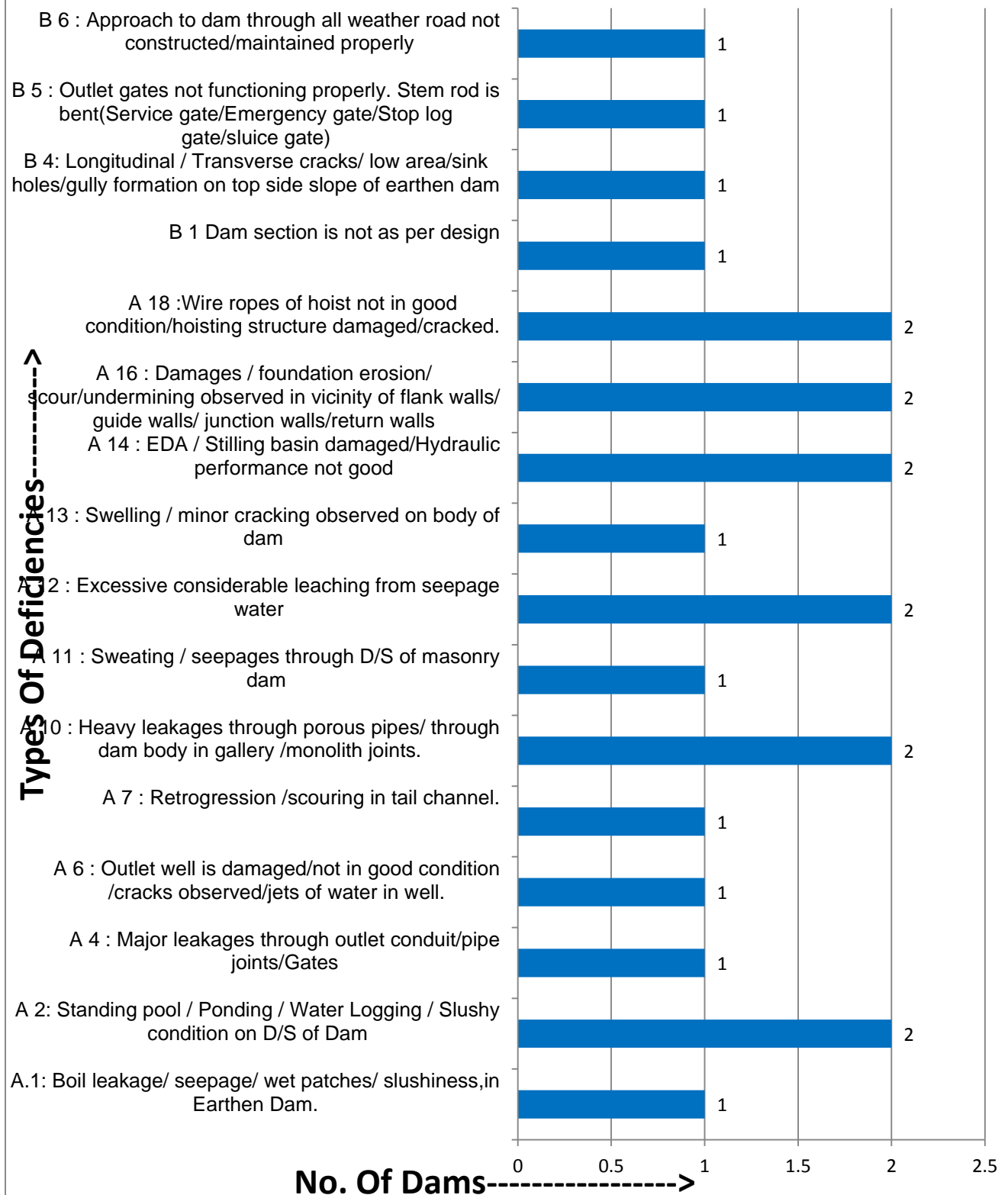
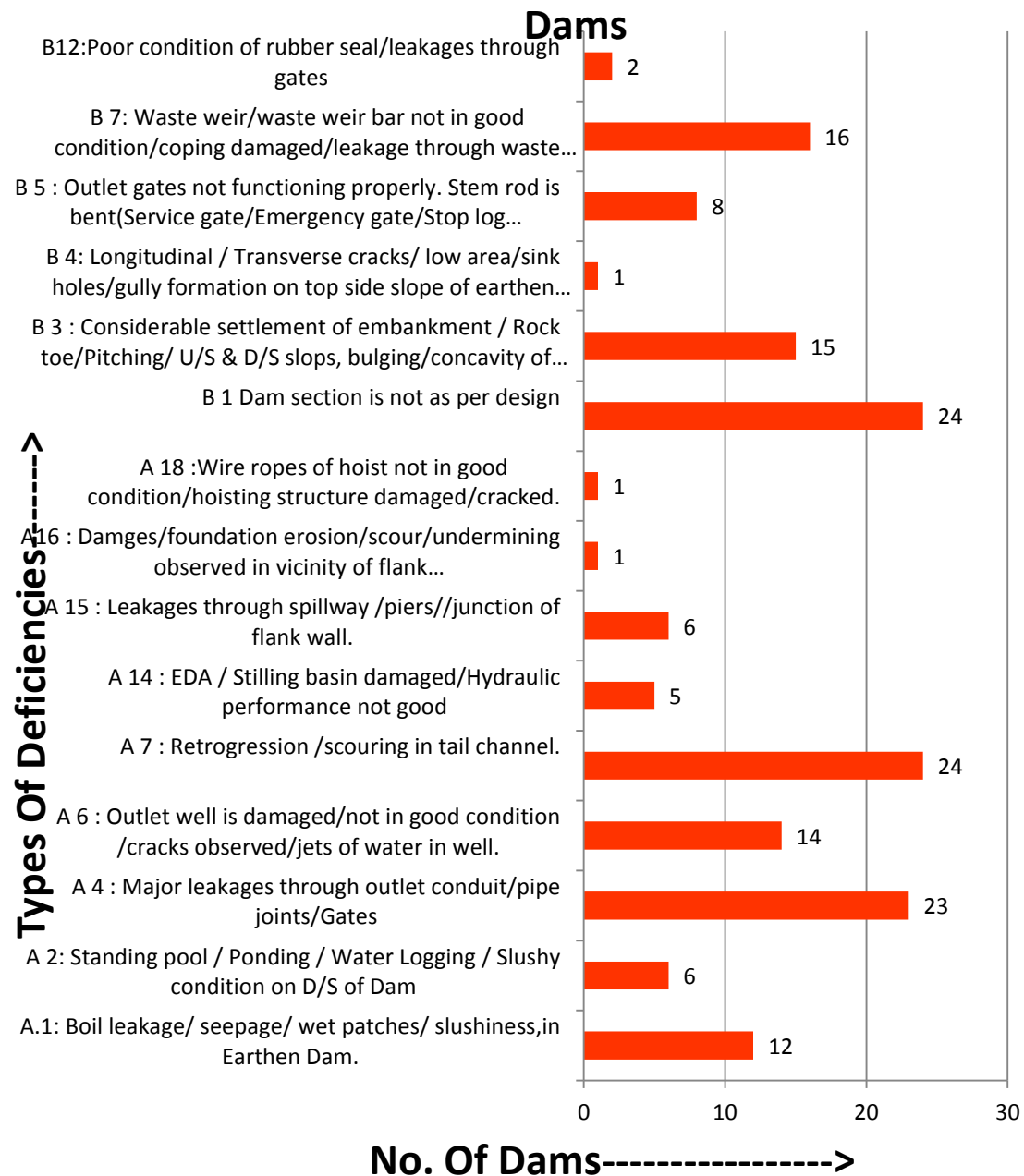


Chart-3
Significant Category-2 Deficiencies in Class -II



ANNEXURE- 1

General Information For Dam Safety Inspections

1.0 TIME SCHEDULE OF INSPECTIONS

The Government of Maharashtra has designed systematic approach for monitoring each and every dam. The periodical inspection of dams must be completed as per following schedule.

Type of Inspection	Last dates for	
	Completion of inspection	Sending of inspection reports to concerned authorities.
(1) Pre Monsoon	15 th May	30 th June
(2) Post Monsoon	30 th November	31 st December
(3) Special inspection before the first filling (Report need not be sent to Dam safety organisation)	30 th April	31 st May
(4) Special inspection after the first filling	within one week after the lake attains the intended storage level.	within one week from the date of inspection.
(5) Special inspection after a severe distressing event or accident or incident.	Immediately after the event is noted.	Within one week form the date of inspection?

2.0 CLASSIFICATION OF DAMS -

The dams are categorized into three types based on their component and features as below.

SR No	Type of Dam	Height from general level of deepest foundation in m.	Impounded gross storage capacity Up to FRL in M Cum	Spillway capacity	Type of spillway
1	2	3	4	5	6
1	Large Dam (Class-I)	Above 30 m	Above 60 M Cum	Above 3,000 Cumecs	Gated Spillway
2	Large Dam (Class-II)	15 m to 30 m	15 MCum upto 60 MCum	2,000 to 3,000 Cumecs	Ungated Spillway
3	Large Dam (Class-III)	10 m.to15m	1.0 MCum upto 15 MCum	2,000 to 3,000 Cumecs	Ungated Spillway

3.0 FIELD INSPECTION AUTHORITIES –

The designated inspection authority for periodical inspection of dam depending upon the classification of type of dam is as below :-

SR No	Type of Dam	Inspection authority	Inspection Reports to be sent to	Test Inspection
1	2	7	8	9
1	Large Dam (Class-I)	Superintending Engineer/ Administrator	1) Chief Engineer 2) Superintending Engineer Dam Safety Organisation.	Test Inspection by the Regional Chief Engineer/ Chief Administrator for the dams having height more than 60 m or storage capacity more than 1000 MCum or spillway capacity 10000 Cumecs or more
2	Large Dam (Class-II)	Executive Engineer	1) Superintending Engineer/ Administrator 2) Superintending Engineer, Dam safety Organisation	
3	Large Dam (Class-III)	Sub-Divisional Eng./Sub Divisional Officer	1)Superintending Engineer/ Administrator 2) Executive Engineer	

Note:-1)All dams more than 15 meters in height will be classified under “Large Dam” Irrespective of other parameters.

2)All dams less than 10 meters in height will be classified as “Small Dam” irrespective of other parameters.

3)In order to determine the exact category of “Large Dam” following procedure shall be followed.The category of dam as per (I) height,(II)stoarage capacity & (III)spillway capacity shall be worked out individually.The highest of category shall be appropriate category of dam

4)Apart from above following additional aparameters shall be considered for deciding the category of the dams between 10 to 15 m. in height.

a)Dams having length of crest more than 2000 m. OR

b)Dams having specially difficult foundation problems OR

c) Dams with unusual design shall be classified under “Large Dams)(Category-2)”

d)Dams having length of crest more than 500 meters but less than 2000 meters shall be classified as “Large Dams (Category-3)”

4.0 PREPARATION OF ANNUAL HEALTH STATUS REPORTS OF CLASS-I AND CLASS-II DAMS.

Dam safety organisation takes over view of the periodical inspection reports of class-I & class-II dams received from field officers, and significant deficiencies are immediately reported to concern authorities to carry out remedial measures. Also based on all periodical inspection reports from field officers and test inspections by DSO officers, the Region wise Annual Health Status Report has been prepared and sent to government, CWC and all concerned Chief Engineers.

5.0 PREPARATION OF ANNUAL HEALTH STATUS REPORT OF CLASS-III DAMS

The responsibility of Health and Safety monitoring of class-III dams lies with the respective Chief Engineer. Hence for Class-III Dams based on periodical inspection reports, Annual Health Status Report of Class-III dams should be prepared by Chief Engineers and sent to DSO for record.

6.0 GUIDELINES REGARDING PREPARATION OF ANNUAL HEALTH STATUS REPORT OF IDENTIFIED LARGE DAMS-

ASHR is prepared in DSO as per Central Water Commission New Delhi's guidelines received vide letter No. 3/19/NCDS/HS/DSM/2001/627-56 dated 28 August 2002. As per this letter it is requested that all states / organizations should send the AHSR for all large dams in prescribed Proforma in the month of 'April' every year.

7.0 CATEGORIZATION OF DEFICIENCIES

The deficiencies observed are categorized as per CWC, New Delhi's letter no.3/19/NCDS/HS/DSM/2007/627-56 dated 28 August 2002 , as below

Deficiency Category -1- Dams with major deficiencies which may lead to dam failure.

Deficiency Category -2- Dams with major rectifiable deficiencies needing immediate attention.

Deficiency Category -3- Dams having minor/nil deficiencies.

For further detailing of deficiencies based on the nature and priority of deficiency , DSO has standardized all the three types of deficiencies. These standardized deficiencies are appended as the Annexure -2

8.0 NATIONAL REGISTER OF LARGE DAMS-

NRLD is compilation of the large dams (Height above 10 meter) in the country as per information received from the owner of dams. In NRLD the definition of "Large Dams" has been adopted as per the norms of International Commission on Large Dams (ICOLD).

NRLD is consist of a Proforma with 20 columns which gives information regarding salient features of Large Dams. Field officers need to submit the information of new dams to DSO every year upto December. The DSO compiles the information required for NRLD from field officer. The response regarding submission of NRLD information from field officer is very poor . After regular follow up/ DSO/HSR/2019-20/NMR

correspondence from DSO office incomplete information receives from field officers. In every January the NRLD register is updated. As per NRLD register 2017 Maharashtra state comprises of total 2354 dams (2069 completed dams and 285 under construction dams)

9.0 MONITORING OF DEFICIENCY REMOVAL PROGRAM AS PER ANNUAL HEALTH STATUS REPORT.

As per Water Resources Department Marathi letter No.2014 dt.12/02/2015 Director General, Design, Training, Hydrology, Research and Safety MERI Nashik has been entrusted to monitor the deficiency removal program. For this a meeting has been held with all concern Chief Engineers and the program has been prepared for removal of deficiencies as per AHSR.

10.0 SUGGESTION FOR INSPECTION BY FIELD OFFICERS -

- 1) Due care shall be taken while filling the salient features of dam and information regarding N.C.D.S. documents.
- 2) It is observed that the information regarding number of instruments installed does not tally for pre & post monsoon inspection report of the same dam. In some cases it is observed that the list of instruments given in previous year do not appears in the current year. These discrepancies should be avoided.
- 3) The periodical inspection reports of all the dams shall be sent in original instead of carbon or xerox copy.
- 4) Ambiguous or incomplete replies shall be avoided. It is necessary to check point wise replies, which should clear and self explanatory.
- 5) The deficiencies observed frequently since long shall be deleted only after rectification work is completed and reported to Dam Safety Organisation, Nashik- 4.
- 6) The inspecting officer is advised to write the word "special attention" in inspection report against all such items wherever immediate attention is necessary from concerned field officer in charge of dam from safety point of dams and life & property on the downstream & would be useful for identifying categorisation of deficiencies in Dam Safety Organisation, Nashik- 4.
- 7) The extent of embankment settlement shall be furnished with its measurement & Reduced Distance (R.D.) and it shall be with compared designed cross section.
- 8) If the existing dam section is found under section as compared to the design section during inspection then the work of resectioning shall be carried out and opinion of inspecting officer shall be stated in inspection report.
- 9) The quantum of retrogression/scouring in tail channel shall be given in inspection report.

- 10) The monolith wise quantum of leaching in galleries and all type of leakages in dam shall be noted in inspection report.
- 11) The trial of spillway gates shall be carried out before monsoon every year & observed condition shall be mentioned in inspection report.
- 12) The information in Appendix II (Performance of meteorological instruments installed) and Appendix III (performance of taking observation of instruments installed in large dams) shall be filled properly and complete.
- 13) The compliance of rectification work of deficiencies of each dam mentioned in status report shall be communicated to Dam Safety Organisation, Nashik every year so that this can be included in the Action Taken Report Part-I of status report.
- 14) Date of inspections is not mentioned in some pre / post inspection reports. This is mandatory since it will reflect in the Annual health status report.

11.0 STANDARD PROCEDURE FOR CONFIRMATION AND REMOVAL OF CATEGORY-I DEFICIENCY OF DAM.

A systematic approach and working methodology is very essential to monitor the safety aspects of the dams. Hence in order to avoid any havoc among the stakeholders of dam, the standard procedure for confirmation of category-I deficiency has been circulated by DSO vide Marathi letter No.1491 dt.25/11/2014.

During the scrutiny of Pre and Post Monsoon report or during DSO test Inspection whenever it is found that the deficiency is of Category-I it will be immediately communicated to concern SE and CE. Concerned CE/SE should immediately visit the dam and should satisfied himself that the deficiency pointed out is a major deficiency which may lead to failure of dam, and should confirm to the DSO regarding the classification of deficiency as per his opinion. If it is confirmed then it will be finalised as Category-I deficiency and accordingly it will be appear in AHSR .

As per government directions, Category-I deficiency should be removed immediately on top priority and after completion of physical work of deficiency removal, Concern Chief Engineer should communicate this to DSO.

Annexure II

Standardized Deficiencies

Standard Deficiencies Category- 1

1 E - Earthen Dam.

1E.1 Seepage water has created an open pathway or pipe through dam, which may lead to failure of dam by piping.

1E.2 Heavy seepage with muddy or turbid water is observed through any part of dam.

1E.3 Seepage water flooding from a boil in the foundation or from relief well on downstream side of dam.

1E.4 Outlet well / Head regulator well and hoisting structure is collapsed/completely damaged.

1E.5 Outlet pipe in the body of the dam is damaged/failed and uncontrolled outlet-releases eroding Toe of dam.

1E.6 Debris stuck under gate or gate leaf is cracked / failed resulting uncontrolled flow through outlet.

1 M - Masonry Dam.

1M.1 Downstream movement or tilting of dam.

1M.2 Differential movement of dam blocks/monoliths.

1M.3 Vertical Displacement with visible cracking in the body of dam.

1 M.4 Spillway gate damaged / not working.

Standard Deficiencies Category – 2

Deficiency Cat II (A)	Deficiency Cat II (B)
Earthen Dam	
A.1: Boil leakage/ seepage/ wet patches/ slushiness,in Earthen Dam.	B 1 Dam section is not as per design
A 2: Standing pool / Ponding / Water Logging / Slushy condition on D/S of Dam	B 2 : Cross and toe drains not working properly/ drains silted or vegetated causing stagnant pool of water.
A 3 : Leakages in vicinity of junction between earthen dam & masonry dam portion.	B 3 : Considerable settlement of embankment / Rock toe/Pitching/ U/S & D/S slopes, bulging/concavity of slopes.
A 4 : Major leakages through outlet conduit/pipe joints/Gates.	B 4: Longitudinal / Transverse cracks/ low area/sink holes/gully formation on top side slope of earthen dam.
A 5 ; Relief wells not functioning properly./ Abnormal rise in water level in wells.	B 5 : Outlet gates not functioning properly. Stem rod is bent(Service gate/Emergency gate/Stop log gate/sluice gate)
A 6 : Outlet well is damaged/not in good condition /cracks observed/jets of water in well.	B 6 : Approach to dam through all weather road not constructed/maintained properly.
A 7 : Retrogression /scouring in tail channel.	B 7: Waste weir/waste weir bar not in good condition/coping damaged/leakage through waste weir.
Masonry / Concrete Dam	
A 8 : Drainage gallery in accessible/No adequate lighting./ No dewatering arrangement or failure.	B 8 : Pointing on U/S face of dam not in good condition./deterioration spalling of concrete surface.
A 9 : Foundation drains / holes/ porous pipes/choked/ no seepage through foundation drain holes.	B 9: Instruments not in working condition.
A 10 : Heavy leakages through porous pipes/ through dam body in gallery /monolith joints.	B 10 : Leakages through River sluice.
A 11 : Sweating / seepages through D/S of masonry dam	
A 12 : Excesssive considerable leaching from seepage water.	
A 13 : Swelling / minor cracking observed on body of dam.	
A 14 : EDA / Stilling basin damaged/Hydraulic performance not good.	
A 15 : Leakages through spillway /piers//junction of flank wall.	
A 16 : Damages / foundation erosion/ scour/undermining observed in vicinity of flank walls/ guide walls/ junction walls/return walls.	
A 17 : End weir not in good condition / scouring noticed on immediate D/S.	
Spillway gates.	
A 18 : Wire ropes of hoist not in good condition/hoisting structure damaged/cracked.	B 11: Surface paint/steel surface of spillway gates deteriorated.
A 19 : Alternative power system Generator for gate operation not working properly.	B 12 : Damage to Rubber seals/Leakages through gates.
A 20 : Operation of gates not smooth needs repair.	

Other structures	
	B 13 : Heavy vegetation/big trees on embankment top/slope making dam portion not accessible.
	B 14 : Deck bridge slab/ pier / damaged cracked/ alignment disturbed.
	B 15 :Major portion of Pitching damaged/washed away.

Standard Deficiencies Category – 3

- 3.1 Profuse growth of bushes and trees over dam portion.
- 3.2 Guard stones/ chainage stones and parapet wall not provided /damaged.
- 3.3 Growth of aquatic weeds in reservoir of dam is observed.
- 3.4 Ant hills or crab holes/holes made by rodents/animals.
- 3.5 Minor undulation/ settlement/ Rain cuts / pot holes observed on dam top & slopes.
- 3.6 Access road/Dam top road surface/ slab joints damaged needs repair.
- 3.7 Pitching on embankment of dam is dislocated /disturbed at some places.
- 3.8 Breaching section is not accessible/ Instruction board showing operation of breaching section is not available.
- 3.9 Section of Toe drain/cross drain/ out fall drain damaged. Some weed growth/ siltation in drains/ nalla.
- 3.10 Surface drain/ Catch water drains for berms are silted /damaged.
- 3.11 Electric cable & wiring are damaged/not in good condition.
- 3.12 Minorleaching in the gallery/ body of dam.
- 3.13 V – notches/ measuring devices are not in working condition/ silted / damaged/ not provided.
- 3.14 Mosquito net door is to be provided to avoid entry of reptiles in thegallery.
- 3.15 Damage to natural slope protection works,guniting damaged/washed out. Wire mesh exposed.
- 3.16 Guide wall/Divide wall/Guide bund/End Sill wall damaged/ Pointing is not in good condition/weep holes not functioning. At some places w.w bar/coping is damaged.
- 3.17 Provision of access to stilling basin/ladder not provided.
- 3.18 EDA ponding with water not possible to Inspect.
- 3.19 Minorerosion/ Scouring/Retrogression/ pot holes in tail channel. Ponding,standing Waterin EDA /Tail channel.
- 3.20 Lubrication/painting required for parts of Gates / hoisting structure/Rubberseal damaged/ replacement.
- 3.21 Approach bridge to intake well / spillway gates railing /flooring plates damaged / need repairs.Need of ladder for inspection well/EDA.
- 3.22 Minor leakages through outlet gates.
- 3.23 Air vent not periodically cleaned./damaged/closed.
- 3.24 EAP / ROS /GOS /Record drawings/ not provided / not prepared at dam site.
- 3.25 The record of periodical measurements of leakage discharge from dam / relief well is not maintained.
- 3.26 Street light on dam top is not provided/not working.
- 3.27 Security / CC TV camera/entry gate not provided/not working/Unauthorized entry.
- 3.28 Sufficient staff arrangement is not available for security ,instrument readings and measurements and maintenance on dam site.
- 3.29 Fencing around dam is not provided/ damaged due to which unauthorized trespassers are seen.

- 3.30** Communication facilities like mobile wireless, warning devices, telephone is not available at dam site.
- 3.31** Sufficient stock of spares/stationary required is not available at dam site.
- 3.32** Security cabin at dam entrance/Irrigation outlets not provided/damaged/needs repair.
- 3.33** Minor leakages through masonry/ concrete dam body/gallery of dam.
- 3.34** Approach channel silted. Trash rack need to be cleaned/ damaged/not provided.
- 3.35** Minor damages to spillway / masonry/ concrete portion of dam.
- 3.36** Porous pipes/foundation drains / holes not periodically cleaned.

Annexure -III



Photo-1

Inambari Dam (Class II)

Tal- Peth Dist-Nashik

Date of inspection:20/09/2019

Due to heavy rainfall during monsoon on the d/s slope of embankment portion having size approximately 20 x20 m and about 2 to 2.5 m deep is sleepped away with stone pitching.Rain water flowing under pitching may have eroded embankment.(B3)



Photo-2

Aad Dam (Class II)

Tal- Peth Dist-Nashik

Date of inspection:21/09/2019

Leakge is noticed on d/s side of dam near outlet pipe.It is at the higher level than conduit pipe.Some turbid water was noticed.Conduit pipe is also flooded.

**Annual Consolidated Health Status Report
Of Identified Large Dams In
North Maharashtra Region**

PART – 3

**Annual performance Report of
Instruments installed on large Dams based
on Pre & Post Monsoon- 2019
inspection report**

PART – 3 Annual performance Report of Instruments installed on large dams

3.1 General.

The main purpose of instrumentation in dam is to monitor the safety of the dam and to warn of any changes that could in danger the safety of a dam, as well as to provide a confirmatory check in design assumptions and methods of computation.

Instruments embedded in or installed at the surface of the dam keeps a constant watch over the performance and indicate the distress spots for which remedial measures may be taken. Thus, instruments play an important role in checking the safety of dams and helps in monitoring and evaluating the performance of the dams during the construction as well as during the operation.

Instruments installed on dams are “Eyes and Ears” of dam’s performance vis-à-vis parameters adopted during its design. The field officers in charge of dams have not been able to upkeep and monitor/maintain instruments installed on dams. Efforts should be taken by all field officers to repair / replace instruments at the earliest. Monitoring of vital parameters like seepage, uplift, settlement and timely remedial measures will go long way in extending the life of the dam.

3.2 Instrumentation in Earthen Dams

Commonly used instrument in earthen dam are as below.

1) Pore Pressure Meter

They are installed in bore holes drilled below the foundation or through already completed embankment. Hence cannot be repaired or replaced.

2) Cassagrande/standpipe piezometers

These are used for measuring pore water pressure in soil. These instruments can be installed at any time after completion of construction of the dam at desired location.

3) Twin Tube Piezometers

These are also used for measuring pore water pressure in earthen dam. These are installed in foundation and embankment during construction of dam. If PVC pipes are found choked due to leached material then it can be cleaned with CuSo4. If pipes are cut / broken then it cannot be replaced as those are in body of dam. Outside measuring assembly can be

repaired. Periodical maintenance, periodical reading and periodical calibration are utmost important.

4) Earth pressure cells

These are installed in the foundation. The cables which are outside the body can be replaced if damaged. The sensor cannot be repaired or replaced.

5) Settlement Gauges (surface settlement gauges/vertical cross arms)

These are used for measuring settlement in earth fill dam, rock fill dam and high embankment. Initially when the dam is under construction these instruments are installed. Settlement of dam is more in initial period, which gradually decreases and it is almost nil after certain period. As such these gauges also do not show settlement after few years.

6) Slope Indicator

This is installed in foundation with one end at bottom and other at top of the dam. It measures horizontal and vertical movement of the dam. This can be replaced.

3.3 Instrumentation in Concrete / Masonry Dams

Commonly used instruments in concrete / masonry dams are as below.

1) Stress meters

The stress meters measure stresses inside the dam body. These instruments are embedded in concrete/masonry during construction stage hence cannot be repaired or replaced.

2) Strain meter/ No stress strain meter

The strain meters measures the deformation in the structure at the particular location due to strain, creep, temperature etc. The main purpose is to determine the stress distribution in the concrete dam during and after construction of dam. Since instrument is installed in the body of the dam it cannot be repaired or replaced.

3) Uplift pressure cells

The bowl type uplift pressure cells are provided in the foundation of dam. Uplift pressure cell is used for monitoring uplift pressure of water in the foundation of dam and concrete structure. The pressure cell pipes can be cleaned if choked. The pressure gauges can be repaired or replaced.

4) Plumb bob /Co-ordimeter

Conventional/inverted plumb bob is used to measure deflection of the dam body. It measures the horizontal displacement in dam's foundation and abutment. Plumb bob can be repaired or replaced.

5) Thermocouples/ Thermometers

These are used to measure the temperature variations in the body of concrete dam. These are installed in layers at various levels and cannot be replaced or repaired after construction.

6) Long gauge extensometer

It is used to measure the deformation/displacement in the foundation of the concrete dam. Once it fails to function cannot be repaired.

7) Joint meters

The joint meters measure the opening of the joints across which they are embedded. As such they are located near the joints.

3.4 Status of Dam Instrumentation in the Region.

Considering the fact that most of the instruments were non-functional from many years, Govt.of Maharashtra appointed a committee to study these instruments. The recommendations of the committee were accepted and incorporated in G.R. धसुसं २०१४(६२१/१४)/ सिं.व्य.(कामे) dated 31.12.2015. Accordingly to every dam owner, it is informed by Dam Safety Organisation to update the list of instruments at the dam site. In this report the updated details of instruments are considered.

The status of dam instrumentation in the region is given in table No, 3.1. Similarly the details of mortality of instruments is given in table No.3.2 and comparison of mortality rate with respect to previous year is given in Table No. 3.3.

3.5 Observations

- 1) There are 10 dams in the region where instruments were installed.
- 2) Various instruments numbering 488 have been installed on these 10 dams. Out of which 07 were functioning and 481 were not functioning i.e. 98.56% instruments are in non-functioning condition.
- 3) As compared to last year, the percentage of instruments functioning is same as previous year.
- 4) The observations of the instruments should be taken regularly and need to be sent to D.S.O. Nashik for analysis.

Table No.3.1

Dam wise Status of Dam Instruments Installed on Large Dams (Nashik)

Dam wise Status of Dam Instruments Installed on Large Dams (Nashik)						
Sr. No.	Dam Name	Instrument Name	Date of Installation	Total	Functional Status (F/N.F)	
					Functional	Non Functional
1	2	3	4	5	6	7
Chief Engineer (W.R) N.M.R, Nashik						
1	Chankapur	Stand pipe piezometers	-	10	0	10
2	Ozarkhed	Twin tube piezometers	-	45	0	45
		Stand pipe piezometers	-	2	0	2
		Uplift pressure cell	-	5	0	5
		Vertical Settlement gauge	-	2	0	2
		Slope indicator	-	0	0	0
3	Karanjwan	Twin tube piezometers		24	0	24
		Stand pipe piezometers	-	14	0	14
		Horizontal & Vertical movement gauge	-	3	0	3
4	Bhojapur	Stand pipe piezometers	-	7	0	7
5	Gangapur	Twin tube piezometers	-	91	0	91
		Stand pipe piezometers	-	11	0	11
6	Adhala	Stand pipe piezometers	-	11	0	11
7	Bhandardara	Standpipe piezometers	1970-71	13	0	13
		Uplift pressure cells	1970-71	2	2	0
		Plumb bob	1970-71	1	0	1
		Tilt meter/ Inclinator	-	0	0	0
		Multiple point bore hole extensometer	-	0	0	0
8	Mula	Stand pipe piezometer	1970	15	5	10
		Twin tube piezometer	1970	42	0	42
		Uplift pressure cells	1970	16	0	16
		Plumb bob	1970	2	0	2
		Settlement guages	1970	2	0	2
CE Wise Total for 8 Dams				318	7	311
Chief Engineer T.I.D.C. Jalgaon						
9	Girna	Stand pipe	1969	26	0	26
		Twin tube piezometers	1969	69	0	69
		Vertical settlement guage	1969	3	0	3
10	Karwand	Twin tube piezometers	-	72	0	72
CE Wise Total for 2 Dams				170	0	170
NMR Region Total for 10 Dams				488	7	481

TABLE NO 3.2
Mortality Status of Instruments installed on Large Dams (Nashik)

Sr. No.	Type of Instruments	Number Of Instruments			
		Total	Working	Non-Working	Mortality (%)
1	2	3	4	5	6
(A) Earth Dams					
1	Casagrande/ Stand pipe Piezometers /Vibrating	109	05	104	95.41
2	Twin tube piezometers	343	0	343	100
3	Horizontal/Vertical device / Cross arm surface settlement plug	10	0	10	100
4	Earth pressure cells	-	-	-	-
5	Slope indicator	-	-	-	-
Total		462	05	457	98.91
(B) Masonry Dams					
1	Pore pressure meters	-	-	-	-
2	Stressmeter	-	-	-	-
3	Strainmeter/ No stress-strain meter	-	-	-	-
4	Uplift pressure cells	23	2	21	91.30
5	Plumb bob/ Inverted Plumb Bob / co-ordimeter	3	0	3	100
6	Long Gauge extensometer, Multiple Bore hole extensometer	-	-	-	-
7	Thermometers	-	-	-	-
8	Jointmeters /Dial Gauge	-	-	-	-
9	Tiltmeter	-	-	-	-
Total		26	02	24	92.30

	Instruments in	Total	Working	Non Working	Mortality
A)	Earth Dams	462	05	457	98.91
B)	Masonry Dams	26	02	24	92.30
	Grand Total	488	07	481	98.56

Table No. 3.3
Comparative Statement for Status of Instruments in Dams

Year		HSR-2019					HSR-2020				
Sr.No.	Name of Chief Engineer	Total Dams	Total Instruments	Functioning	Not-Functioning	% functioning	Total Dams	Total Instruments	Functioning	Not-Functioning	% functioning
1	Chief Engineer (W.R) N.M.R, Nashik	8	324	16	308	5	8	318	07	311	2.20
2	Chief Engineer T.I.D.C. Jalgaon	2	170	0	170	0	2	170	0	170	0
Total		10	494	16	478	3.23	10	488	07	481	1.43

**Annual Consolidated Health Status Report
Of Identified Large Dams In
North Maharashtra Region**

PART – 4

**Annual performance Report of
Meteorological Instruments installed on
Dams based on Pre & Post Monsoon- 2019
Inspection report**

PART -4 Annual performance Report of Meteorological instruments installed on dams

4.1 General

Hazard potential of dam depends upon the possible hazard it poses to population on the downstream during flood. In case of gated spillways, generally flood is considered to impinge when reservoir is at F.R.L. If flood forecasting and warning systems are in place, flood impingement can be considered at lower when F.R.L. considering prior depletion.

The establishment of hydro-meteorological stations in the vicinity of every Class-I dam and rain gauge network in its catchments assumes vital importance due to its role in flood forecasting and warning. The hydro-meteorological station shall be capable of recording data relating to, among other parameters, rainfall, atmospheric pressure, maximum & minimum temperature and humidity, wind speed, wind direction, height of waves and reservoir water temperature. It is important that a representative proportion of the rain gauge network is linked to flood forecasting and warning control centre by telemetry.

Performance of the meteorological instruments dealt in this report are only the instruments operated and maintained by Dam authorities. In addition to this, there is vast network of the hydro meteorological stations stack which is operated and maintained by Hydrology Project. Same is not dealt in this AHSR.

4.2 Observations

1. From Pre/Post Monsoon Reports it is seen that the ANNEXURE-IV which is “**Checklist of Various Meteorological Instruments installed on Dams**” is not filled properly and quantity of number of instruments varies from year to year. As this status of instruments is submitted to C.W.C., New Delhi. Field authorities need to make sure that correct information is filled. Table 4.1 gives the dam wise status of the meteorological instruments, and Table 4.2 gives the status of morality of meteorological instruments installed in the region.
2. As per Pre/Post Monsoon reports of North Maharashtra region it is seen that 194 various meteorological instruments installed on dams out of which 145 are functioning and 49 are non functioning. The non-functioning should be repaired/replaced on priority.
3. As per the government circular CDA-1013/(207/13)/CAD(works)/ August-2013. It is mandatory to install **Pan Evaporimeter** to measure evaporation on all major and medium projects.

Efforts should be taken by field officers to establish automatic flood warning systems which will help in saving lives, livestock and property and will invariably contribute to lessening of the overall impact of floods.

Table- 4.1

DAMWISE STATUS OF METEOROLOGICAL INSTRUMENTS INSTALLED ON DAMS

Sr. No.	Name of dam	Name of instruments	Total	Performance		Remarks
				Working	Not working	
1	2	3	4	5	6	7
1	Gangapur	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge on dam (self recorder)	1	1	0	
		3) Rain Gauge in catchment (ordinary)	2	2	0	
		4) Rain Gauge in catchment (self recorder)	6	6	0	
		5) Automatic water level recorder	1	1	0	
2	Darna	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Pan Evaporimeter	1	1	0	
		3) Rain Gauge on dam (self recorder)	1	1	0	
		4) Rain Gauge in catchment (ordinary)	2	2	0	
		5) Rain Gauge in catchment (self recorder)	3	3	0	
		6) Automatic water level recorder	1	1	0	
3	Karwa	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge on Dam (self recorder)	1	1	0	
		3) water stage recorder	1	1	0	
		4) pan evaporimeter	1	1	0	
		5) wind velocity recorder	1	0	1	
		6) wind direction recorder	1	0	1	
		7) Rain Gauge in catchment (self recorder)	1	1	0	
		8) Barometer	1	1	0	
4	Rameshwar	1) Rain Gauge on Dam (ordinary)	1	1	0	
5	Chankapur	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Pan evaporimeter	1	0	1	
		3) Rain Gauge on Dam (Self recorder)	2	0	2	
		4) Rain Gauge in the catchments (Ordinary)	1	0	1	
6	Ozarkhed	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge on Dam (self recorder)	1	0	1	
		3) Rain Gauge in the catchments (Ordinary)	1	1	0	
		4) Pan Evaporimeter	1	1	0	
7	Karanjwan	1) Rain Gauge on Dam(ordinary)	1	1	0	
		1) Rain Gauge on Dam(self recorder)	1	1	0	
		2) Rain Gauge in the catchment (Ordinary)	2	2	0	
		3) Rain Gauge in the catchment (Self recorder)	3	0	3	
		4) Pan evaporimeter	1	1	0	
8	Waghad	1) Rain Gauge on Dam(ordinary)	1	1	0	
		2) Rain Gauge on Dam(self recorder)	1	0	1	
		3) Rain Gauge in the catchment (Self recorder)	1	0	1	
		4) Pan Evaporimeter	1	1	0	

9	Palkhed	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge on Dam (self recorder)	1	0	1	
		3) Pan evaporimeter	1	1	0	
10	Punegaon	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge on Dam (self recorder)	1	0	1	
		3) Rain Gauge in the catchment (Self recorder)	1	0	1	
		4) Pan evaporimeter	1	0	1	
11	Gautami	1) Rain Gauge on Dam (ordinary)	1	0	1	
		2) Rain Gauge on Dam (self recorder)	1	1	0	
		3) Rain Gauge in catchment (ordinary)	1	1	0	
		3) Rain Gauge in catchment (self recorder)	2	0	2	
12	Bhojapur	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge in catchment (self recorder)	1	0	1	
13	Haranbari	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge in catchment (self recorder)	1	1	0	
		3) Rain Gauge on dam (self recorder)	1	0	1	
		4) Pan Evaporimeter	1	0	1	
14	Bori (Ambedari)	1) Rain Gauge on Dam (ordinary)	1	0	1	
15	Alandi	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge on Dam (self recorder)	1	1	0	
16	Kelzar	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge on Dam (self recorder)	1	0	1	
		3) pan evaporimeter	1	1	0	
17	Punand	1) Rain Gauge on Dam (self recorder)	1	1	0	
18	Mukane	1) Rain Gauge in catchment (self recorder)	1	1	0	
		2) Pan Evaporimeter	1	1	0	
		3) Water level recorder	1	1	0	
		4) Wet/Dry Bulb Thermometer	1	1	0	
		5) Wind velocity recorder	1	1	0	
19	Waldevi	1) Raingauge in catchment (ordinary)	1	1	0	
		1) Rain Gauge on Dam (self recorder)	1	1	0	
20	Kashyapi	1) Rain Gauge on Dam (ordinary)	1	0	1	
		2) Rain Gauge on dam (self recorder)	1	0	1	
		3) Rain Gauge in catchment (self recorder)	2	0	2	
		4) Automatic water level recorder	1	1	0	
21	Bhavali	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge on dam (self recorder)	1	0	1	
		3) Water level recorder	1	0	1	

22	Waghur	1) Rain Gauge in catchment (self recorder)	2	2	0	
		2) Rain Gauge on Dam (ordinary)	1	1	0	
		3) Rain Gauge in catchment (ordinary)	15	15	0	
		4)) Pan Evaporimeter	1	0	1	
23	Aner	1) Rain Gauge on dam (self recorder)	1	1	0	
		2) Rain Gauge on Dam (ordinary)	1	1	0	
24	Karwand	3) Rain Gauge on Dam (ordinary)	1	1	0	
25	Panzara	1) Rain Gauge on Dam (ordinary)	1	1	0	
26	Sonwad	1) Rain Gauge on Dam (ordinary)	1	1	0	
27	Akkalpada	1) Rain Gauge on Dam (ordinary)	1	0	1	
28	Shrimant	1) Rain Gauge on Dam (self recorder)	1	0	1	
		2) Rain Gauge in catchment (ordinary)	1	1	0	
29	Rangawali	1) Rain Gauge on Dam (ordinary)	1	1	0	
30	Amravati	1) Rain Gauge on Dam (ordinary)	1	0	1	
31	Koradinala	1) Rain Gauge on Dam (ordinary)	1	0	1	
		2) Rain Gauge in catchment (ordinary)	1	1	0	
32	Nagan	1) Rain Gauge on Dam (ordinary)	1	1	0	
33	Shivan	1) Rain Gauge on dam (ordinary)	1	1	0	
		1) Rain Gauge on Dam (Self recording)	1	0	1	
34	Mangrul	1) Pan Evaporimeter	1	1	0	
		2) Water level recorder	1	1	0	
35	Bahula	1)) Pan Evaporimeter	1	0	1	
		2) Rain Gauge on Dam (ordinary)	1	0	1	
36	Girna	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge in catchment (ordinary)	8	8	0	
		3) pan evaporimeter	1	1	0	
37	Anjani	1) Rain Gauge on Dam (Self recording)	1	1	0	
		2)) Pan Evaporimeter	1	0	1	
		3) Rain Gauge on Dam (Ordinary)	1	1	0	
		4) Rain Gauge in catchment (self recorder)	1	1	0	
38	Gul	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge on Dam (Self recording)	1	1	0	
		3) Rain Gauge in catchment (self recorder)	1	1	0	
39	Suki	1) Raingauge on dam (ordinary)	1	1	0	
40	Manyad	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge in catchment (ordinary)	2	2	0	
41	Bori	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Pan Evaporimeter	1	0	1	
42	Agnawati	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Pan Evaporimeter	1	1	0	
43	Charthana	1) Raingauge on dam (ordinary)	1	1	0	

44	Hiwara	1) Raingauge on dam (ordinary)	1	1	0	
45	Tondapur	1) Raingauge on dam (ordinary)	1	1	0	
46	Sarvapimpri	1) Raingauge on dam (ordinary)	1	1	0	
47	Lahasar	1) Raingauge on dam (ordinary)	1	1	0	
48	Abhora	1) Raingauge on dam (ordinary)	1	1	0	
49	Pimpri	1) Raingauge on dam (ordinary)	1	1	0	
50	Hatnoor	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Pan Evaporimeter	1	1	0	
51	Waghur	1) Rain Gauge on Dam (ordinary)	1	1	0	
52	Mor	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge in catchment(ordinary)	1	0	1	
		3) Water level recorder	1	1	0	
		4) Pan Evaporimeter	1	0	1	
53	Sina	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Pan Evaporimeter	1	1	0	
		3) Wind velocity recorder	1	1	0	
		4) Wind direction recorder	1	1	0	
		5) wet/dry bulb thermometer	1	1	0	
54	Mula	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge in catchment(ordinary)	1	1	0	
		3) Rain Gauge on Dam (self recorder)	1	0	1	
		4) Pan Evaporimeter	1	1	0	
		5) Wind velocity recorder	1	0	1	
		6) Wind direction recorder	1	0	1	
		7) wet/dry bulb thermometer	1	0	1	
55	Mandohol	1) Rain Gauge on Dam (ordinary)	1	1	0	
56	Visapur	1) Rain Gauge on Dam (ordinary)	1	1	0	
		2) Rain Gauge in catchment(ordinary)	1	1	0	
57	Adhala	1) Rain Gauge on Dam (ordinary)	1	0	1	
		2) Pan Evaporimeter	1	1	0	
58	Bhandardara	2) Rain Gauge in catchment(self recorder)	4	4	0	
59	Bhatodi	1) Rain Gauge on Dam (ordinary)	1	0	1	
60	Nilwande	1) Rain Gauge in catchment(self recorder)	5	4	1	
Total			194	145	49	

Table No. 4.2

Mortality status of Meteorological Instruments Installed on Dams

Sr. No.	Type of Instruments	Number Of Instruments			
		Total	Working	Non-Working	Mortality (%)
1	2	3	4	5	6
1	Rain gauge on dam (Ordinary)	58	48	10	17.24
2	Rain gauge on dam (Self Recorder)	23	11	12	52.17
3	Rain gauge in catchment (Ordinary)	38	37	1	2.63
4	Rain gauge in catchment (Self Recorder)	33	22	11	33.33
5	Pan Evaporimeter	23	16	7	30.43
6	Wind velocity recorder	4	2	2	50.00
7	Wind direction recorder	3	1	2	66.67
8	Wet/dry bulb thermometer	3	2	1	33.33
9	Thermometer for air jump	0	0	0	0.00
10	Thermometer for reservoir water temp	0	0	0	0.00
11	Water stage recorder	8	7	1	12.5
12	Barometer	1	1	0	0.00
13	Sun shine recorder	0	0	0	0.00
14	Max & Min thermometer	0	0	0	0.00
15	Wave height recorder	0	0	0	0.00
16	Hydrometer	0	0	0	0.00
17	Humidity Meter	0	0	0	0.00
18	Automatic level controller	0	0	0	0.00
19	Steven meter	0	0	0	0.00
20	DWLL	0	0	0	0.00
21	Other Meteorological Instruments	0	0	0	0.00
Total		194	145	49	32.88

**Annual Consolidated Health Status Report
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North Maharashtra Region**

PART – V

**Status of NCDS documents submitted to DSO of Class I Dams
(Including Private Dams)
(As on 31.03.2020)
(Year 2019-2020)**

National Committee on Dam Safety (NCDS) Documents

PART-V - Importance of National Committee on Dam Safety (NCDS) Documents :

Central Water Commission (CWC) has laid down various guidelines covering the standardized dam safety practices-essentially guiding the dam owners in preparation of Emergency Action Plans, Periodical Dam Safety inspections, comprehensive dam Safety evaluation and appropriate institutional framework for dam safety. Their implementation is emphasized during the meetings of National Committee on Dam Safety (NCDS) and through the communications sent in this regard.

During the 34th meeting held at Chennai in March 2015 it was requested to all the Dam owners to take necessary steps for preparation of EAPs & other documents & report to NCDS Secretariat about the number of Dams for which EAPs & other documents have been prepared, along with the target dates for the preparation of EAPs & other documents for the remaining Dams.

The documents to be prepared as per National Committee on Dam Safety are as under & these shall be properly maintained and kept up to date by including latest information available.

1. EAP
2. R.O.S & G.O.S.
3. Data Book
4. O & M manual
5. Record Drawing & Completion Report,

1. EAP : Emergency Action Plan:

An Emergency action plan is a formal plan that identifies potential emergency conditions at a dam prescribes the procedures to be followed to minimize property damage and loss of life. The EAP contains procedures and information to assist the dam owner in taking necessary actions in time to moderate or alleviate the problems, in addition to issuing early warning & notification messages to responsible emergency management authorities, viz., District Magistrate/Collector, Armed Forces, Paramilitary forces, Project Authorities & other Central/State Agencies. It also contains inundation maps to show the emergency management authorities of the critical areas for necessary relief and rescue actions in case of an emergency. In a nutshell, it outlines “who does, what, where, when and how” in an emergency situation or unusual occurrence affecting the Dams. The Emergency Action Plan has to be prepared as per

Guidelines circulated by C.W.C., New Delhi's vide letter no. 3/19/NCDS/Guidelines EAP/DSM/2004/233-67, Dtd. 17 May 2006. CWC Guidelines are available on http://www.cwc.gov.in/main/downloads/cwc/EAP_chapters.pdf

2. R.O.S. (Reservoir operation schedule) & G.O.S. (Gate operation schedule) :

It is very necessary to lay down operating procedures of all storage reservoirs with the objective to limit the flood stages in the river downstream and with maximum feasible utilization of the flood capacity of the river channel downstream of reservoirs, consistent with the safety of the dam. A proper reservoir operation schedule should be in place.

For this purpose a schedule of opening and closing the gates to limit the reservoir levels to preset gauges should be laid down. Schedule for the dam as per operation & maintenance manual should be strictly adhered. The entire capacity of reservoir is used for active conservation. When the reservoir rises above active conservation, operation will be in accordance with the standing operation procedures. Inflow forecasting arrangement should be made for easy operation of gates. The Engineer in charge should inform immediately to the flood maintenance engineer downstream and flood –fighting center of the releases from the reservoir.

3. Data book:

Proper assessment of dam safety involves a thorough review of design, construction and performance records prior to conducting a field examination. The Data Book is an unpublished document which is prepared before the initial safety inspection of each dam. This book is abbreviated, convenient source of information, summarizing all pertinent records and history related to the safety of a dam and is a reference for the evaluation team. This Data Book should answer most questions about the dam. A list of reference is included if additional information is needed. Continual updating of the Data Book will be required as future inspections are made, new problems arise, new investigations are undertaken and remedial treatments performed. Documentation of all projects may be done in the Data Book format which is the primary data base for the team evaluating the safety of a dam. (Guidelines on standardized Data Book format are available at http://www.cwc.gov.in/Dam_safety.html)

4. O & M Manual:

It is desirable that a separate manual is available with the officers. The officers Incharge of such works are requested to personally go through the manual and maintain the records from time to time in such a manner as to give their successors complete and correct

idea of the state of each of the several storage works in their charge and the different standing orders on all matters concerning the works. This will enable them to tackle problems as they arise, by quickly referring to the manual as far as possible without having to depend on the office to give information. The complete set of manual for each of the storage works should be personally handed over to successor by each concerned officer.

Copies of the maintenance manual shall be maintained at all offices right from sectional office to Circle office.

It is also necessary that the manuals are inspected at the time of inspection by the superior officers. Record of handing over and inspection should be maintained.

5. Record Drawing & Completion Report :

The importance of record drawings & completion report as an archival data need not be emphasized. All efforts should be made by field engineers to prepare Record Drawing & Completion Report and store them for future reference.

Table - 5.1

COMPARATIVE STATEMENT OF EAP, GOS AND ROS OF CLASS I DAMS IN NORTH MAHARASHTRA REGION														
S. No.	Name of CE Office	EAP				GOS				ROS				Remark
		Total Class I Dams		EAP Received		Total Gated Class I Dams		GOS Received		Total Gated Class I Dams		ROS Received		
		HSR-2016	HSR-2019	HSR-2016	HSR-2019	HSR-2016	HSR-2019	HSR-2016	HSR-2019	HSR-2016	HSR-2019	HSR-2016	HSR-2019	
1	C.E. NMR, Nasik	28	29	16	16	13	14	12	13	13	13	12	13	
2	C.E.TIDC, Jalgaon	35	35	19	17	20	20	16	14	20	20	16	14	
3	C.E, S.P, Pune	1	1	1	1	0	0	0	0	0	0	0	0	
4	C.E, W.R, Konkan	1	1	0	0	0	0	0	0	0	0	0	0	
5	Private Dams	1	1	0	0	1	1	0	0	1	1	0	0	
Total		66	68	36	34	34	34	28	27	34	34	28	27	

Table 5.2

NORTH MAHARASHTRA REGION NASHIK					
Position of preparation of Emergency Action Plan (EAP)			Class I Dams =68		
Sr.No	Name of C.E.	Total Dam	Received	Not Received	Remark
1	C.E. NMR, Nashik	29	16	14	
2	C.E.TIDC, Jalgaon	35	17	18	
3	C.E, S.P, Pune (NMR Region)	1	1	0	
4	C.E, W.R, Konkan (NMR Region)	1	0	1	
5	Private Dams in NMR Region	1	0	1	
	Total	68	34	34	

Table 5.3

Position of preparation of Reservoir Operation Schedule (ROS)			Gated Dams =34		
Sr.No	Name of C.E.	Total Dam	Received	Not Received	Remark
1	C.E. NMR, Nasik	13	13	0	
2	C.E.TIDC, Jalgaon	20	14	6	
3	C.E, S.P, Pune (NMR Region)	--	--	--	
4	C.E, W.R, Konkan (NMR Region)	--	--	--	
5	Private Dams in NMR Region	1	0	1	
	Total	34	27	7	

Table 5.4

Position of preparation of Gate Operation Schedule (GOS)			Gated Dams =34		
Sr.No	Name of C.E.	Total Dam	Received	Not Received	Remark
1	C.E. NMR, Nasik	14	13	1	
2	C.E.TIDC, Jalgaon	20	14	6	
3	C.E, S.P, Pune (NMR Region)	--	--	--	
4	C.E, W.R, Konkan (NMR Region)	--	--	--	
5	Private Dams in NMR Region	1	0	1	
	Total	34	27	7	

Table 5.5

Damwise Position of EAP, ROS, GOS Documents Class - I Dams				
R = Received, NR = Not Received, UG = Un Gated				
Sr.No.	Name of Dam	EAP	ROS	GOS
	GMIDC			
I)	CE, NMR, Nashik			
	A) SE, CADA, Nashik			
1	Adhala	NR	UG	UG
2	Bahvali	NR	UG	UG
3	Balthan	NR	UG	UG
4	Bhandardara	R(2003)	R(2018)	R(2018)
5	Bhegu	R(2008)	UG	UG
6	Bhojapur	NR	UG	UG
7	Chankapur	R(2007)	R(2018)	R(2017)
8	Darna	R(1997)	R(2018)	R(2018)
9	Gangapur	NR	R(2018)	R(2018)
10	Gautami Godavari	R(2010)	R(2018)	R(2018)
11	Ghoti (Shilwandi)	NR	UG	UG
12	Haranbari	R(1996)	UG	UG
13	Kadwa	R(1997)	R(2018)	R(2018)
14	Karanjwan	R(1996)	R(2018)	R(2017)
15	Kashyapi	R(2004)	R(2018)	R(2018)
16	Kelzar	R(1997)	UG	UG
17	Kothale	NR	UG	UG
18	Mukane	R(2003)	R(2018)	R(2018)
19	Mula	R(1996)	R(2018)	R(2017)
20	Ozarkhed	R(1997)	UG	UG
21	Padoshi	NR	UG	UG
22	Palkhed	R(1998)	R(2018)	R(2017)
23	Punegaon	NR	R(2018)	R(2017)
24	Shirpunje	NR	UG	UG
25	Titavi	NR	UG	UG
26	Waghad	R(1997)	UG	UG
27	Waldevi	R(2004)	UG	UG
28	Kalu (Bruhat)	NR	NR	NR
	B) S.E. CADA, A'nager			
29	Nilwande	NR	R(2018)	R(2018)
30	Bham	NR	NR	NR
	Received	16	13	13
	Not Received	14	2	2
	Un Gated	0	15	15
	Total	30	30	30

Sr.No.	Name of Dam	EAP	ROS	GOS
II)	CE, T.I.D.C. Jalgaon A)S.E.CADA Jalgaon			
1	Aner	R(1997)	R(2008)	R(2008)
2	Bahula	R(2004)	R(2008)	R(2008)
3	Bori	R(2003)	R(2008)	R(2008)
4	Burai	R(1983)	UG	UG
5	Girna	R(1969)	R(2008)	R(2008)
6	Hatnur	R(1997)	R(2008)	R(2008)
7	Jamkhedi	R(2015)	UG	UG
8	Karwand	R(1997)	UG	UG
9	Mangrul (Bhokar)	NR	UG	UG
10	Manyad	R(1996)	UG	UG
11	Mor	R(2008)	R(2007)	R(2007)
12	Panzara	R(1998)	UG	UG
13	Ranipur	R(2015)	UG	UG
14	Sonwad	R(2015)	R(2015)	R(2015)
15	Suki	R(1998)	UG	UG
	B) S.E.J.I.P.C. Jalgaon			
16	Amarawati	NR	R(2008)	R(2008)
17	Anjani	R(2008)	R(2009)	R(2009)
18	Borkheda	NR	UG	UG
19	Gul	R(2014)	R(2009)	R(2009)
20	Haripura	NR	UG	UG
21	Nimbadevi	NR	UG	UG
22	Prakasha Barrage	NR	R(2009)	R(2009)
23	Waghur	NR	R(2009)	R(2009)
24	Waghzira	NR	UG	UG
	C)S.E, D.I.P.C.Dhule			
25	Akkalpada (Lower Panzara)	NR	NR	NR
26	Dara	NR	UG	UG
27	Kordi	NR	UG	UG
28	Manikpunj	NR	UG	UG
29	Nagan	R(2016)	NR	NR
30	Punand	R	NR	NR
31	Sarangkheda Barrage	NR	R(2009)	R(2009)
32	Shivan	R	R(2008)	R(2008)
33	Sulwade Barrage	NR	R(2009)	R(2009)
34	Susari	NR	R(2008)	R(2008)
35	Wadi Shewadi	NR	R(2009)	R(2009)
	Received	19	17	17
	Not Received	16	03	3
	Un Gated	0	15	15
	Total	35	35	35

Sr.No.	Name of Dam	EAP	ROS	GOS
III)	C.E, S.P, Pune (NMR Region)			
	S.E, CADA, Pune			
1	Sina	R(2006)	UG	UG
	Received	1	0	0
	Not Received	0	0	0
	Un Gated	0	1	1
	Total	1	1	1
IV)	C.E, W.R, Konkan, Mumbai (NMR Region)			
	S.E, TIC, Thane			
1	Shrimant	NR	UG	UG
	Received	0	0	0
	Not Received	1	0	0
	Un Gated	0	1	1
	Total	1	1	1
V)	Private Dams in North Maharashtra Region			
	Nashik municipal Corporation			
1	Chehedi	NR	NR	NR
	Received	0	0	0
	Not Received	1	1	1
	Total	1	1	1

Table 5.6

Position of preparation of other NCDS Documents North Maharashtra Region Total Class – I Dams = 68										
Sr. No.	Name of C.E.	Total No Of Dams	Completion Report		Record Drawing		Data Book		O & M Manual	
			Received	Not received	Received	Not received	Received	Not received	Received	Not Received
1	C.E. NMR, Nasik	30	6	24	16	14	14	16	13	17
2	C.E.TIDC, Jalgaon	35	7	28	11	24	9	26	7	28
3	C.E, S.P, Pune (NMR Region)	1	0	1	1	0	1	0	0	1
4	C.E, W.R, Konkan (NMR Region)	1	0	1	0	1	0	1	0	1
5	Private Dams in NMR Region	1	0	1	0	1	0	1	0	1
Total For NMR Region		68	13	55	28	40	24	44	20	48

Table 5.7
Position of other NCDS Documents
North Maharashtra Region (Class - I Dams)

Sr. No	Name Of Dam	Completion Report	Record Drawing	Data Book	O & M manual	Remark
	GMIDC					
I)	C.E., NMR, Nashik					
	A) S.E., CADA, Nashik					
1	Adhala	R	R	R	R	
2	Bahvali	NR	NR	NR	NR	
3	Balthan	NR	NR	NR	NR	
4	Bhandardara	R	R	R	R	
5	Bhegu	NR	R	R	R	
6	Bhojapur	NR	R	R	NR	
7	Chankapur	R	R	R	R	
8	Darna	R	R	R	R	
9	Gangapur	R	R	NR	NR	
10	Gautami Godavari	NR	NR	NR	NR	
11	Ghoti (Shilwandi)	NR	NR	NR	NR	
12	Haranbari	NR	R	R	R	
13	Kadwa	NR	R	R	R	
14	Karanjwan	R	R	R	R	
15	Kashyapi	NR	NR	NR	NR	
16	Kelzar	NR	R	R	R	
17	Kothale	NR	NR	NR	NR	
18	Mukane	NR	R	NR	NR	
19	Mula	NR	R	R	R	
20	Ozarkhed	NR	R	R	R	
21	Padoshi	NR	NR	NR	NR	
22	Palkhed	NR	R	R	R	
23	Punegaon	NR	NR	NR	NR	
24	Shirpunje	NR	NR	NR	NR	
25	Titavi	NR	NR	NR	NR	
26	Waghad	NR	R	R	R	
27	Waldevi	NR	NR	NR	NR	
28	Kalu Bruhat	NR	NR	NR	NR	
	B) C.E., CADA, Ahmadnagar					
29	Nilwande	NR	NR	NR	NR	
30	Bham	NR	NR	NR	NR	
	Received	6	16	14	13	
	Not Received	24	14	16	17	
	Ungated	0	0	0	0	
	Total	30	30	30	30	

Sr. No	Name Of Dam	Completion Report	Record Drawing	Data Book	O & M manual	Remark
III)	C.E, S.P, Pune (NMR Region)					
	S.E, CADA, Pune					
1	Sina	NR	R	R	NR	
	Received	0	1	1	0	
	Not Received	1	0	0	1	
	Un Gated	0	0	0	0	
	Total	1	1	1	1	
IV)	C.E, W.R, Konkan, Mumbai (NMR Region)					
	S.E, TIC, Thane					
1	Shrimant	NR	NR	NR	NR	
	Received	0	0	0	0	
	Not Received	1	1	1	1	
	Un Gated	0	0	0	0	
	Total	1	1	1	1	
II)	C.E., T.I.D.C. Jalgaon					
	A) S.E., CADA Jalgaon					
1	Aner	R	R	R	R	
2	Bahula	NR	NR	NR	NR	
3	Bori	R	R	R	R	
4	Burai	R	R	R	R	
5	Girna	R	R	R	R	
6	Hatnur	NR	R	NR	NR	
7	Jamkhedi	NR	NR	NR	NR	
8	Karwand	R	R	R	R	
9	Mangrul (Bhokar)	NR	NR	NR	NR	
10	Manyad	R	R	R	R	
11	Mor	NR	NR	NR	NR	
12	Panzara	R	R	R	R	
13	Ranipur	NR	R	NR	NR	
14	Sonwad	NR	R	R	NR	
15	Suki	NR	R	R	NR	
	B) S.E., J.I.P.C. Jalgaon					
16	Amarawati	NR	NR	NR	NR	
17	Anjani	NR	NR	NR	NR	
18	Borkheda	NR	NR	NR	NR	
19	Gul	NR	NR	NR	NR	

Sr. No	Name Of Dam	Completion Report	Record Drawing	Data Book	O & M manual	Remark
20	Haripura	NR	NR	NR	NR	
21	Nimbadevi	NR	NR	NR	NR	
22	Prakasha Barrage	NR	NR	NR	NR	
23	Waghur	NR	NR	NR	NR	
24	Waghzira	NR	NR	NR	NR	
	C) S.E., D.I.P.C.Dhule					
25	Akkalpada (Lower Panzara)	NR	NR	NR	NR	
26	Dara	NR	NR	NR	NR	
27	Kordi	NR	NR	NR	NR	
28	Manikpunj	NR	NR	NR	NR	
29	Nagan	NR	NR	NR	NR	
30	Punand	NR	NR	NR	NR	
31	Sarangkheda Barrage	NR	NR	NR	NR	
32	Shivan	NR	NR	NR	NR	
33	Sulwade Barrage	NR	NR	NR	NR	
34	Susari	NR	NR	NR	NR	
35	Wadi Shewadi	NR	NR	NR	NR	
	Received	7	11	9	7	
	Not Received	28	24	26	28	
	Un Gated	0	0	0	0	
	Total	35	35	35	35	

Private Dam in North Maharashtra Region

V)	Nashik Municipal Corporation					
1	Chehedi	NR	NR	NR	NR	
	Received	0	0	0	0	
	Not Received	1	1	1	1	
	Un Gated	0	0	0	0	
	Total	1	1	1	1	

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PART – 6

**Data filling status on DHARMA portal
North Maharashtra Region**

PART-VI - DHARMA: Dam Health and Rehabilitation monitoring application

Introduction-

Dam health & Rehabilitation Monitoring application (DHARMA) is a web based asset management software to support the effective collection and management of authentic asset and health data for all large dams in India and address key dam safety challenges of .

- i) Insuring Completeness of information.
- ii) Bring stake holders together
- iii) Effectively managing asset inventory.
- iv) Assess soundness of dame health.

Design and Development-

DHARMA software will consist of seven modules.

- i) Project features
- ii) Project portfolio
- iii) Engineering features.
- iv) Asset health.
- v) Asset rehabilitation.
- vi) Stake holders and
- vii) Document library.

The first three modules (i to iii) consist of mostly static data, to be enter once and rarely undergo a change where as modules iv) and v) will be dynamic and requires regular updating with information associated with inspections investigations, instrumentation and rehabilitation works. Modules vi) and vii) contain information useful for reference.

Table 6.1
Data filling status on DHARMA portal

Sr. No	Name of Dam	NRLD registration number	Dharma data filling status (%)
1	2	3	4
[1] Chief Engineer ,NMR,Nashik			
(1) CADA, Nashik			
(a) NID,Nashik			
1	Bhojapur	MH09HH0313	11
2	Gangapur	MH09HH0113	22
3	Mukane	MH09MH1380	11
4	Waldevi	MH09HH1376	10
5	Kashyapi	MH09HH1479	11
6	Gautami Godavari	MH09HH1778	11
7	Bhavali	MH09HH1789	11
8	Darana	MH09MH0037	27
9	Karawa	MH09MH1444	27
(b) PID,Nashik			
10	Ozarkhed	MH09HH0943	23
11	Punegaon	MH09MH1486	11
12	Waghad	MH09HH0797	12
13	Palkhed	MH09HH0532	11
14	Karanjwan	MH09HH0454	09
(C) AID,Ahamadnagar			
15	Adhala	MH09HH0594	11
16	Kothale	MH09MH1938	10
17	Titavi	MH09HH1941	11
18	Shirpunje	MH09HH1940	11
19	Ghoti Shilwandi	MH09HH1937	11
20	Padoshi	MH09HH1939	11
21	Kalu(Bruhat)	--	00
22	Bhadardara	MH09HH0013	60
23	Balthan	MH09MH1936	11
(d) MID, Malegaon			
24	Kelzar	MH09HH0896	11
25	Bhegu	MH09HH1540	11
26	Haranbari	MH09HH0842	11
27	Chankapur	MH09HH0028	25
(e) MID, Ahamadnagar			
28	Mula	MH09HH0316	03

2)CADA,Ahamadnagar			
a)Upper Pravara Dam div,Sangamner			
29	Nilwande	MH09HH1942	11
30	Bham	MH09HH1761	10
[2]CE,TIDC,Jalgaon			
(1) SE,DIPC,Dhule			
(a) NMPD 2,Nnadurbar			
31	Susari	MH09MH1950	10
32	Dara	MH09HH1797	11
33	Shivan Virchek	MH09MH1748	11
34	Kordinala	MH09MH1094	11
(b)DMPD,Dhule			
35	Wadi Shewadi	MH09HH1815	11
36	Sulwade Barrage	MH09MH1814	11
37	Nagan	MH09MH1791	11
38	Akkalpada	MH09HH1795	11
(c) GRVPD,Nashik			
39	Manikpunj	MH09HH1786	11
40	Punand	MH09MH1820	11
(2)SE,CADA,Jalgaon			
(a)DID,Dhule			
41	Amravati	MH09MH1644	10
42	Sarangkheda Barrage	MH09HH1770	03
43	Prakasha Barrage	MH09HH1810	11
44	Burai	MH09HH1009	11
45	Karwand	MH09HH0226	11
46	Panzara	MH09MH0385	11
47	Ranipur	MH09HH1481	11
48	Aner	MH09HH0741	82
49	Sonwad	MH09MH1487	11
50	Jamkhedi	MH09MH1593	11
(b) JID,Jalgaon			
51	Suki	MH09HH0656	10
52	Bhokar	Not Avalable	00
53	Bahula	MH09MH1445	00
54	Mor	MH09HH1619	11
55	Hatnur	MH09MH0948	11
(c) GID,Jalgaon			
56	Girana	MH09MH0196	10
57	Manyad	MH09HH0387	16
58	Bori	MH09MH0659	11

(3) JIPC,Jalagon			
(a) MID,Jalgaon			
59	Waghzira	MH09HH1659	10
60	Nimbadevi	MH09HH1660	11
61	Borkheda	MH09HH1658	11
62	Haripura	MH09HH1956	11
(b) JMPD 1,Jalgaon			
63	Anjani	MH09MH1954	10
64	Gul	MH09HH1955	11
(c) Waghur Dam Div,Jalgaon			
65	Waghur	MH09LH1750	10
[3] CE,SP,Pune			
(1) KIC,Pune			
(b) KID 2,Shrigonda			
66	Sina	MH09MH1142	11
[4]CE,WR,Kokan ,Mumbai			
(1)TIC,Thane			
(a)MID,Nashik			
67	Shrimant	MH09HH2037	11



DHARMA

Integrated Approach for Asset Management of Dams in India

Information Bulletin No.4

January 2019



INSIDE

p.1 What is DHARMA?

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The Dam Health and Rehabilitation Monitoring Application (DHARMA)

is being developed as a part of the institutional strengthening component of the Dam Rehabilitation and Improvement Project (DRIP). DRIP is an initiative undertaken by the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India with the financial assistance of The World Bank.

DHARMA has been designed and developed to enhance the capacity of individuals and organisations throughout India to manage their dam assets scientifically and professionally so as to sustain advantages of dams. This Information Bulletin No.4 has been prepared by the Central Project Management Unit (CPMU) to present an overview of the purpose and content of the software.

Project



Financial Assistance



Technical Assistance



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What is DHARMA?

Introduction

There are 5264 large dams in operation in India and 437 are under construction. In addition, there are several thousand smaller dams. All these dams are vital for ensuring the water security of the country in a sustainable manner and regulating water during the rainy season to prevent floods.

Today, many of these dams are facing various structural deficiencies as well as shortcomings in the operation and monitoring facilities. There are also inefficiencies in the monitoring of real-time information regarding dam health and ongoing rehabilitation measures. These conditions affect the safety of the structures and pose risks to life and properties of people downstream of dam.

In April 2012, the six-year **Dam Rehabilitation and Improvement Project (DRIP)** was launched at an estimated cost of 2100 Crore INR for assisting dam-owning agencies in rehabilitating selected dams across selected states.

In 2017, the project has been extended by two years, until June 2020, to finish all of the programmed rehabilitation works on 223 dams in 7 states, with a revised cost of 3466 Crore INR.

In this context, the **Dam Health and Rehabilitation Monitoring Application (DHARMA)** has been designed and developed *to enhance the capacity of individuals and organisations throughout India to manage their dam assets* scientifically and professionally so as to sustain advantages of dams (irrigation and water supply, flood control, hydropower etc.) and prevent disasters.



Figure 1: DHARMA capturing information

Why is it needed ?

Managing the Dam Safety of over five thousand dams entails a number of obstacles to overcome. The prime challenge is to deliver the precious dam health information collected during the site inspection to the State and Central **Dam Safety Organisations (DSOs)** in a timely and secure manner. Improving this transmission of information thanks to data analysis will generate a more precise monitoring of the dams' health in DSOs as well as a more informed prioritization of rehabilitation works. To accomplish this goal, the four main challenges listed below must be overcome; it is DHARMA's goal to address these challenges.



Figure 2: The purposes of DHARMA

1. Bring Stakeholders Together

DHARMA will ensure that details of all stakeholders are recorded and maintained. Such details may pertain to individuals as well as organisational entities associated with dam planning and design, construction, operation and maintenance, and rehabilitation.

2. Ensure Completeness of Information

DHARMA will enable gathering and updating of dam asset information in a centralised and structured manner so as to overcome limitations of multiplicity of agencies, wide geographical spread, voluminous data, varied terminologies and units, unknown and mismatched time reference and inconsistent formats.

3. Assess Soundness of Dam Health

DHARMA will ensure prompt capturing of inspection and investigation data directly by the 'Dam Health Engineers' and provide tools for correct analysis and interpretation of this time dependent data.

4. Effectively manage Asset Inventory

DHARMA will provide a complete data collection and management platform for assimilation of varied information for every dam component across all dam projects, also thereby benefiting from the insights and learning curves of a wider stakeholder spectrum.

The Users of DHARMA

DHARMA User Types

DHARMA has been designed for individuals and organisations at **Dam, State and Central level**. Owing to the large number of dams, several thousand individuals are expected to use the software; they will be assigned to seven main user roles across three tiers, as presented below:

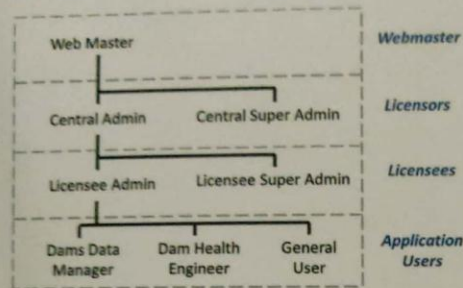


Figure 3: DHARMA User Types

The highest tier '**Licensors**' includes the 'Central Admin' and 'Central Super Admin' roles — these are based in the Central Dam Safety Organisation (in Central Water Commission) and are responsible for administrative control and distribution of the DHARMA software. One of the responsibilities of the 'Licensors' is to grant licenses to the second '**Licensees**' tier which



includes the 'Licensee Admin' and 'Licensee Super Admin' roles. These are typically members of Central or State dam owning organisations (eg. State Water Resources Departments). Licensees, in turn, can add three types of '**Application Users**' namely 'Dams Data Manager', 'Dam Health Engineer' and 'General User' who are responsible for managing and updating the data in DHARMA.

A clear distinction is made between the 'Dams Data Manager' (DDM) and 'Dam Health Engineer' (DHE). The **Dams**

Data Manager's role is to manage the static information of dams, i.e. information that is entered once into the software and rarely changes (such as Spillway Capacity, Location of Dam, Access...). He/she is authorized to manage the data of the first three modules, presented in the next page. The **Dam Health Engineer's** role is to manage dynamic data of a Dam, i.e. data that requires regular updates such as inspection report, investigations, instrumentation data...

DHEs are able to enter their inspection report directly on the software. A mobile application will also be developed for them to enter and upload their inspection report directly from dam site. An option to upload geo-referenced data and photos of each deficiency will be included so as to report deficiencies as precisely as possible.



	Dams Data Manager (DDM)	Dam Health Engineer (DHE)
Type of Data handled	Static Data	Dynamic Data
Modules	Modules 1 to 3: Project Features, Project Portfolio, Engineering Features	Modules 4 to 7: Asset Health, Asset Rehabilitation, Stakeholders, Document Library
Tasks assigned	<ul style="list-style-type: none"> Entering high level information of the dam (Height, location, access, ...) Creating the Portfolio of the Dam by assembling the different DHARMA components to match the physical layout of the dam Geo-referencing of each component on Google Maps and adding photos Entering the technical details of each component (Dam Block, Spillway, Gallery...) 	<ul style="list-style-type: none"> Entering the regular pre and post monsoon inspection reports Entering and updating the O&M, Investigations, Instrumentation, and EAP data of the dam Entering the details of rehabilitation works implemented at the dam Entering the contact details of the dam's staff and suppliers in the Stakeholders Module Uploading all important dam documents in pdf format into the Document Library Module

Figure 4: Distinction between DDM and DHE

DHARMA Modules

DHARMA consists of the **7** modules and **2** additional data analysis tools presented below:

Static Modules

1. Project Features

This module gives the static, high-level details of a dam project, such as the Dam's Height, Location, Access details... The General, Location and Financial information will be stored for all projects as well as the details of specific benefits provided by each dam: Irrigation, Hydropower, Navigation, Water Supply, Industrial, Tourism, Flood Control, Fishing, and Other Benefits.

2. Project Portfolio

It allows the Dams Data Manager to describe the make-up of his/her dam project using seventeen building blocks, the DHARMA components (Figure 6). Each component is added and organized in layers, similar to the MS Windows Explorer menu. For each component, the user can locate its exact position on Google Maps, upload pictures and schematics.

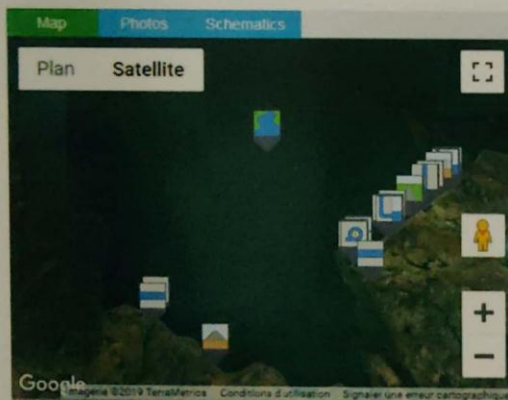


Figure 5: DHARMA Project Portfolio Map

3. Engineering Features

This module contains the technical details associated with each of the components entered in the Project Portfolio module. For example, whereas the name, location, photos and schematics of a storage reservoir would be entered in the Project Portfolio module, it is in Engineering Features that the volumes, elevations and dimensions are provided.

Dynamic Modules

4. Asset Health

This module supports the creation of regular pre and post-monsoon inspections and specific inspections. In this module, the Dam Health Engineers can also upload Instrumentation, Operation & Maintenance (O&M) and Emergency Action Plan (EAP) data, which is attached to the components from the Project Portfolio.

5. Asset Rehabilitation

Also to be administered by designated Dam Health Engineers, it captures the details of any rehabilitation works (minor or major) at the dam project. The need for future rehabilitation works should be identified in the inspection forms of the asset health module however, previous or historic rehabilitation works (pre-DHARMA) can also be entered into the module independently.

6. Stakeholders

The purpose of this module is to capture details of all individuals and organizations involved with each dam project including dam owners, operators, designers, consultants, contractors, and suppliers. Simple forms are provided explaining the nature and duration of involvement of each party and their contact details.

7. Document Library

The last module enables users to upload important designs and documents into a user-friendly database from where they can be easily retrieved using filters and other search criteria. An additional functionality will allow users to tag the documents such that they can be retrieved from other relevant sections of the software using hyperlinks.

Data Analysis Tools

The **Dashboard** enables Dam Safety Organisations to monitor the data-entry for each dam and to pinpoint dams with critical deficiencies.

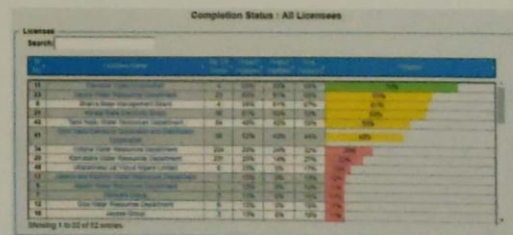


Figure 6: DHARMA Static Dashboard

The **Report Generator** creates lists of dams responding to selected criteria. (State, Purpose, Completion Year...)

Implementation of DHARMA

The success of DHARMA particularly depends on its uptake by Dam Data Managers and Dam Health Engineers around the country (cf. page 2, the users of DHARMA) as they will be in charge of entering all the data. The implementation of the DHARMA application is therefore as important as its design and development.

The first two modules were launched in May 2016 then, the team of designers, which gathers both software developing and civil engineering skills, started to perform training sessions around India in order to make the users familiar with the application.

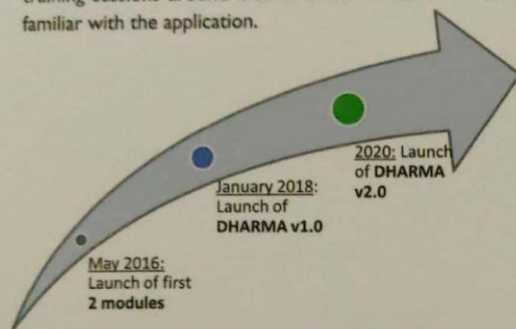


Figure 7: Timeline of DHARMA

DHARMA v1.0 was launched nationally in January 2018, during the previous International Dam Safety Conference in Trivandrum and following the successful migration of the National Register of Large Dams (NRLD) in 2017. Since then 24 trainings were held for 865 participants including 4 trainings in non-DRIP States (Rajasthan, Maharashtra & Gujarat). Thanks to these trainings sessions, today 600 people use DHARMA actively and 1546 dams are assigned (out of 5236 large dams in India).

The trainings take place in the State Capitals, they are arranged by the Implementing Agencies which are part of the Dam Rehabilitation and Improvement Project (DRIP). Participants of the trainings (ranging from 30 to 90 for

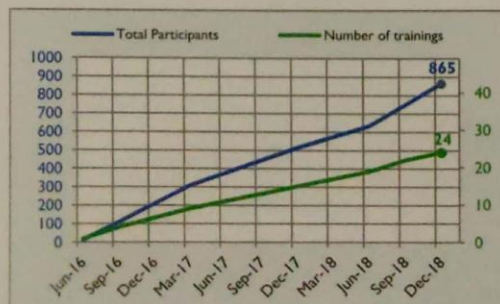


Figure 8: Cumulative number of DHARMA users

each session) receive hands-on sessions for each module and tool, interactive quizzes and presentations on the purpose and benefits of DHARMA.

The **version 2.0** of DHARMA is to be implemented by December 2020. This version is currently under design and is likely to consist of 4 additional "sub-modules" and 3 additional tools.

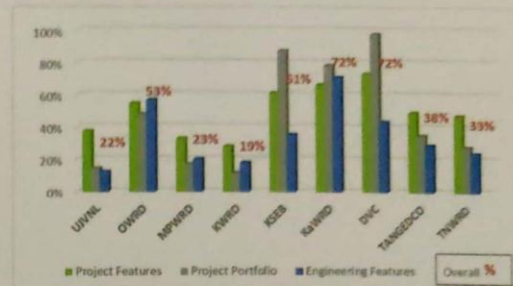


Figure 9: Status of data entry Agency-wise

Here is a list of all Implementing Agencies already using DHARMA:

Implementing Agencies	Dams assigned to agency	Dams with entered data	Total Users
Agencies in DRIP			
Odisha Water Resources Department	204	182	204
Karnataka Water Resources Department	231	184	122
Tamil Nadu Water Resources Department	84	84	91
Madhya Pradesh Water Resources Dpt	887	42	85
Kerala Water Resources Department	20	20	83
Uttarakhand Jal Vidyut Nigam Limited	6	4	33
Kerala State Electricity Board	36	36	25
Tamil Nadu Elec Gen & Distrib Corp	38	38	15
Damodar Valley Corporation	4	4	8
Agencies not in DRIP			
Rajasthan Water Resources Department	211	121	90
Maharashtra Water Resources Department	2354	60	49
Gujarat Engineering Research Institute	621	21	31
Punjab Water Resources Department	15	14	18
Bhakra Beas Management Board	4	4	7
Uttar Pradesh Irrigation and WRD	133	1	3
National Hydroelectric Power Corporation	22	22	3
Bihar Water Resources Department	26	1	3
Meghalaya Power Gen Corp Limited	7	-	2
Narmada Hydroelec Dvpt Corporation Ltd	-	-	2
Telangana Irrigation and CAD Department	174	-	2
Himachal Pradesh State Electricity Board	2	-	2
Karnataka Engineering Research Station	-	-	2
Chhattisgarh Water Resources Department	258	-	1
Goa Water Resources Department	6	-	1
Jammu and Kashmir Water Resources Dpt	1	-	1
TOTAL	1544	848	861





Who can I contact to know more?

This is the fourth information bulletin on DHARMA. Development of updated versions of DHARMA and implementation of the software will continue to be taken up in a phased manner under the guidance of the **DHARMA Development Group (D3G)** and **DHARMA Implementation Group (DIG)**. All DRIP dams are expected to be incorporated into DHARMA before the completion of DRIP.

In the meantime, further information on the Dam Rehabilitation and Improvement Project (DRIP) can be found at www.damsafety.in. For further information on DHARMA, please also visit our dedicated website 'damsafety.in/dharma,' where you can download the latest **User Manual**.

For any other queries, the DHARMA team can be contacted through the details provided below.

For further information please contact:

Project Director, DRIP and DSR Director, Central Water Commission
3rd Floor, New Library Building, R.K. Puram, New Delhi—110066

Telefax: +91-11-26192633

Email: dir-drip-cwc@nic.in Website: www.damsafety.in



**Annual Consolidated Health Status Report
Of Identified Large Dams In
North Maharashtra Region**

PART – 7

**Status Report of Gates Of
Various Gated Dams In
North Maharashtra Region
(Including Private Dams)**

Part-7 Status report of Gates of Various gated dams in North Maharashtra region (including Private Dams)

7.1 General

As per GR.NO.ID/1078/23/8/IMP/2 Dtd.10/09/1980, Dam Safety Organization has been established by Government of Maharashtra for effective monitoring the safety aspects of dam.

As per Maharashtra Government Guidelines and regulation, Chief Engineer (Mechanical), Water Resources Dept. Nashik assigned Dams gate Inspection work to Superintending Engineer, Mechanical Circle, Nashik to assure proper operation and maintenance of Dam gates

Under Superintending Engineer, Mechanical Circle, Nashik Executive Engineer, Inspection unit , Aurangabad and Executive Engineer, Sluice Gate Mfg. Division, Dapodi , Pune are looking after all the inspection works.

Division offices Conduct all pre monsoon & Post Monsoon Gate Inspection work of Government, Semi Government, & Private Dams and send Reports to related authorities for same.

After Inspection work the observed points or deficiencies are classified into various categories as given below.

Def. Category 1	Dams with Major Deficiencies which may lead to dam failure	Very Serious Defects
Def. Category 2 (2 A)& (2B)	Dams with rectifiable Deficiencies needs immediate attention	Serious Defects (2A)
		Require immediate attention (2B)
Def. Category 3	General Defects	General Defects

In the year of 2019 pre and post monsoon inspection of total 134 gated dams have been carried out by Mechanical Organisation. It is to be noted that Chief engineer (Mechanical) W.R.D Nashik, prepares independently the detail Health status Report of all the gated dams inspected by mechanical organisation. This report is published and submitted to WRD and circulated to all Concern Chief Engineers.

In this Health Status Report, only the dam wise number of deficiencies noted by mechanical organisation are given in this part of AHSR. For details regarding the actual deficiencies Health Status Report circulated by Mechanical Organisation shall be referred.

7.2 Overall Health Statues of Gated Dams

35 Class-I gated dams in the North Maharashtra region were inspected by Mechanical Organisation. Category -1 deficiency is not observed on Sarangkhedha Barrage .Category -2 & 3 deficiencies are observed on all the 35 dams. Total 1087 Category -2 deficiencies and 2890 Category -3 deficiencies are observed on the dams in the region

Table No.7.1 shows the dam wise and category wise deficiencies identified in the region.

Table 7.1
Damwise and Categoriwise Number of Deficiencies Identified on Gated Dams in the
North Maharashtra Region

Sr. No.	Name of Class-1 Gated Dam	Categoriwise Identified Deficiencies			Remarks
		Cat-I	Cat-II (2A)&(2B)	Cat-III	
1	2	3	4	5	6
A)	Chief Engineer (NMR)				
1	Gangapur	0	21	33	
2	Darana	0	27	25	
3	Kadwa	0	21	22	
4	Mukane	0	12	80	
5	Kashyapi	0	14	54	
6	Gautami Godawari	0	15	68	
7	Karanjvan	0	17	91	
8	Punegaon	0	16	74	
9	Palkhed	0	38	36	
10	Bhandardara	0	12	43	
11	Mula	0	21	51	
12	Chanakapur	0	18	75	
13	Nilvande	--	--	--	Not Inspected
B)	CE, TIDC, Jalgaon	0			
14	Bori	0	27	75	
15	Hatnur	0	96	175	
16	Bahula	0	41	84	
17	Mor	0	52	70	
18	Anjani	0	38	149	
19	Gul	0	59	85	
20	Waghur	0	76	159	
21	Susri	0	25	53	
22	Shivan	0	37	82	
23	Nagan	0	35	86	
24	Wadishewadi	0	37	104	
25	Akkalpada (Lower Panzra)	0	14	128	
26	Amrawati	0	19	221	
27	Aner	0	41	122	
28	Sonwad	0	32	76	
29	Prakasha Barage	0	10	35	
30	Sarangkheda Barage	2	39	42	
31	Sulwade Barage	0	17	31	
32	Nandur Madhameshwar	0	27	177	

Sr. No.	Name of Class-1 Gated Dam	Categoriwise Identified Deficiencies			Remarks
		Cat-I	Cat-II (2A)&(2B)	Cat-III	
1	2	3	4	5	6
33	Girna	0	61	165	
34	Punand	0	62	89	
C)	Private Dams				
35	Chehadi Barage Private Dam (Class-II)	0	10	30	
	Total -	02	1087	2890	

Suki Dam



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